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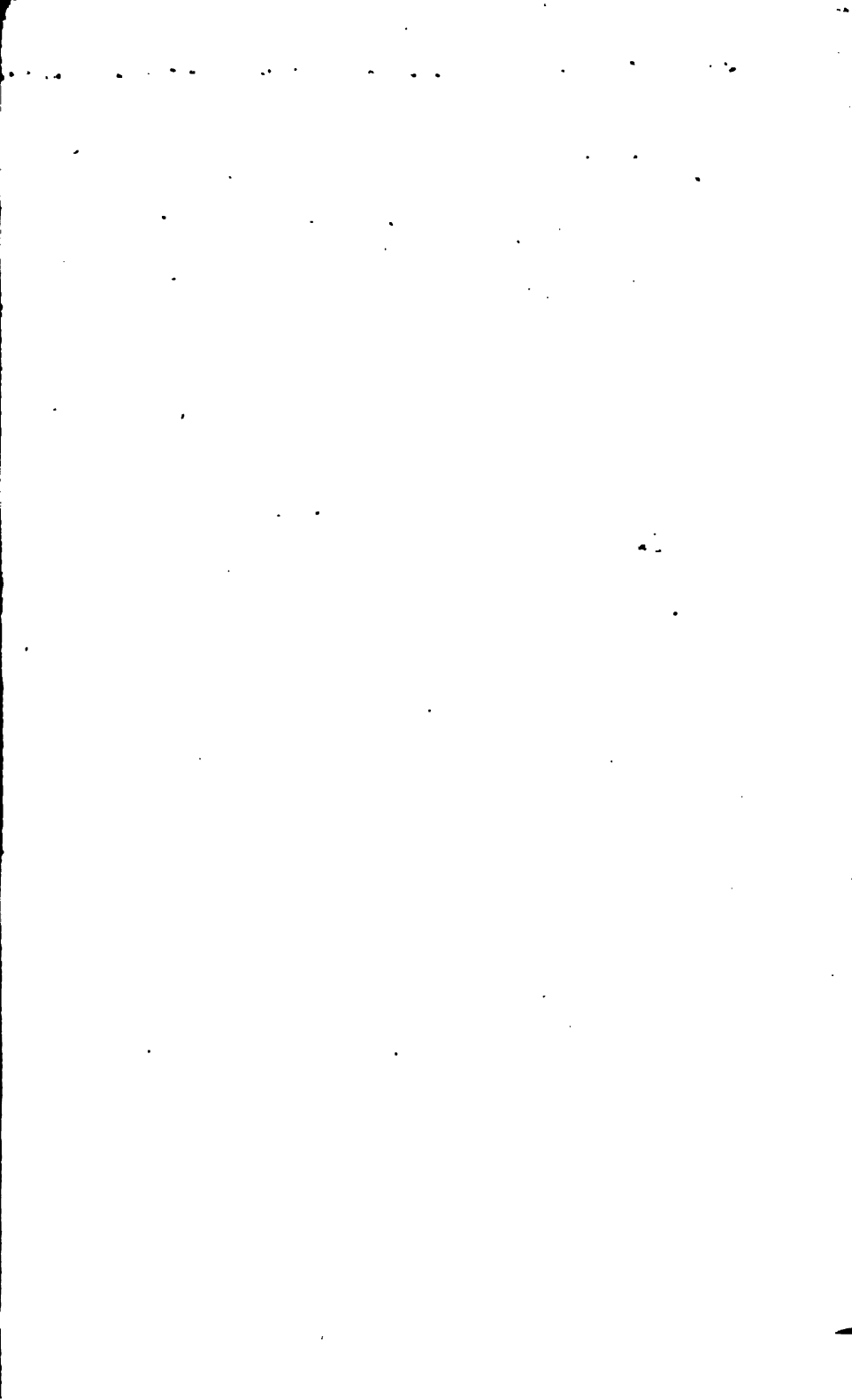


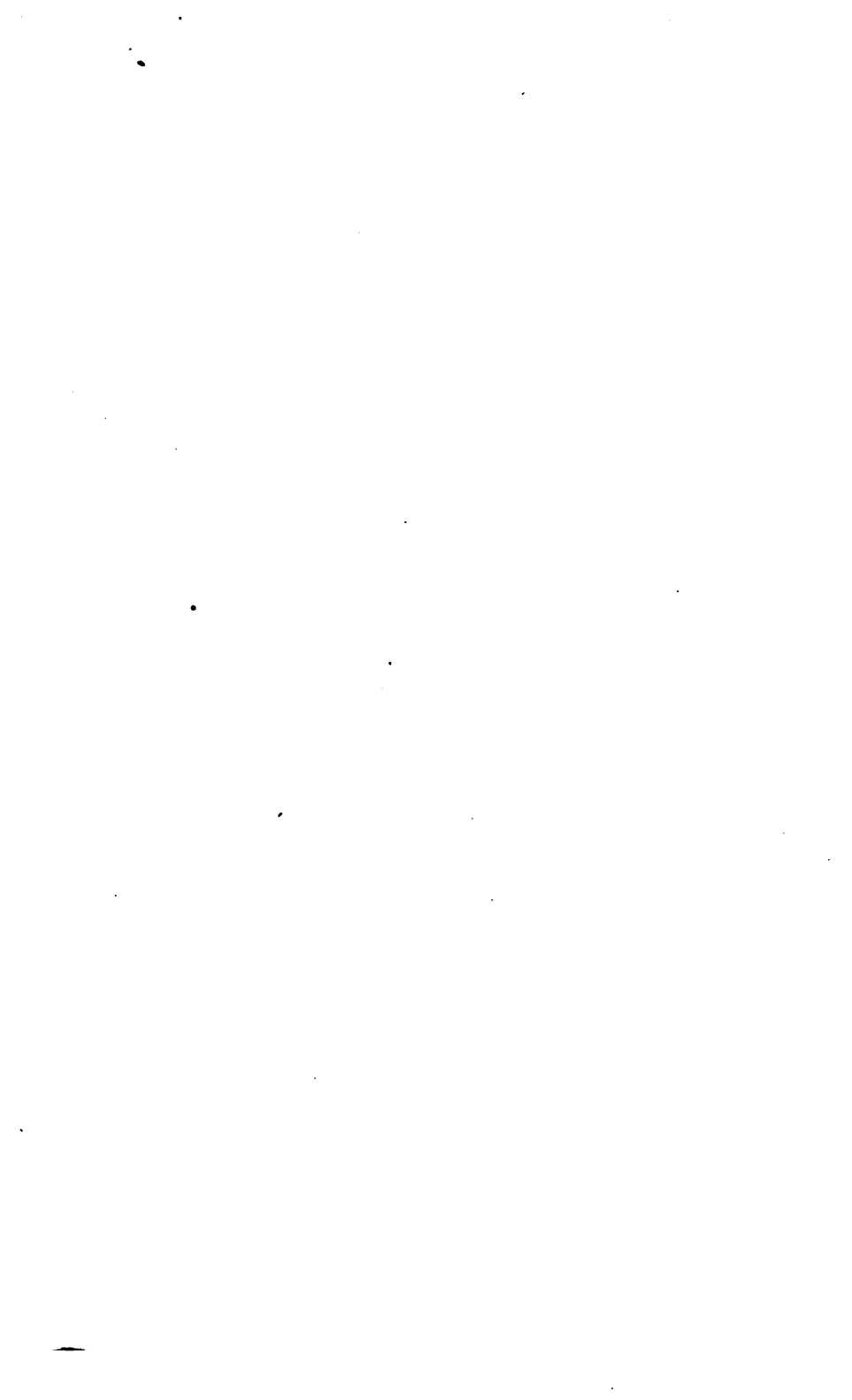
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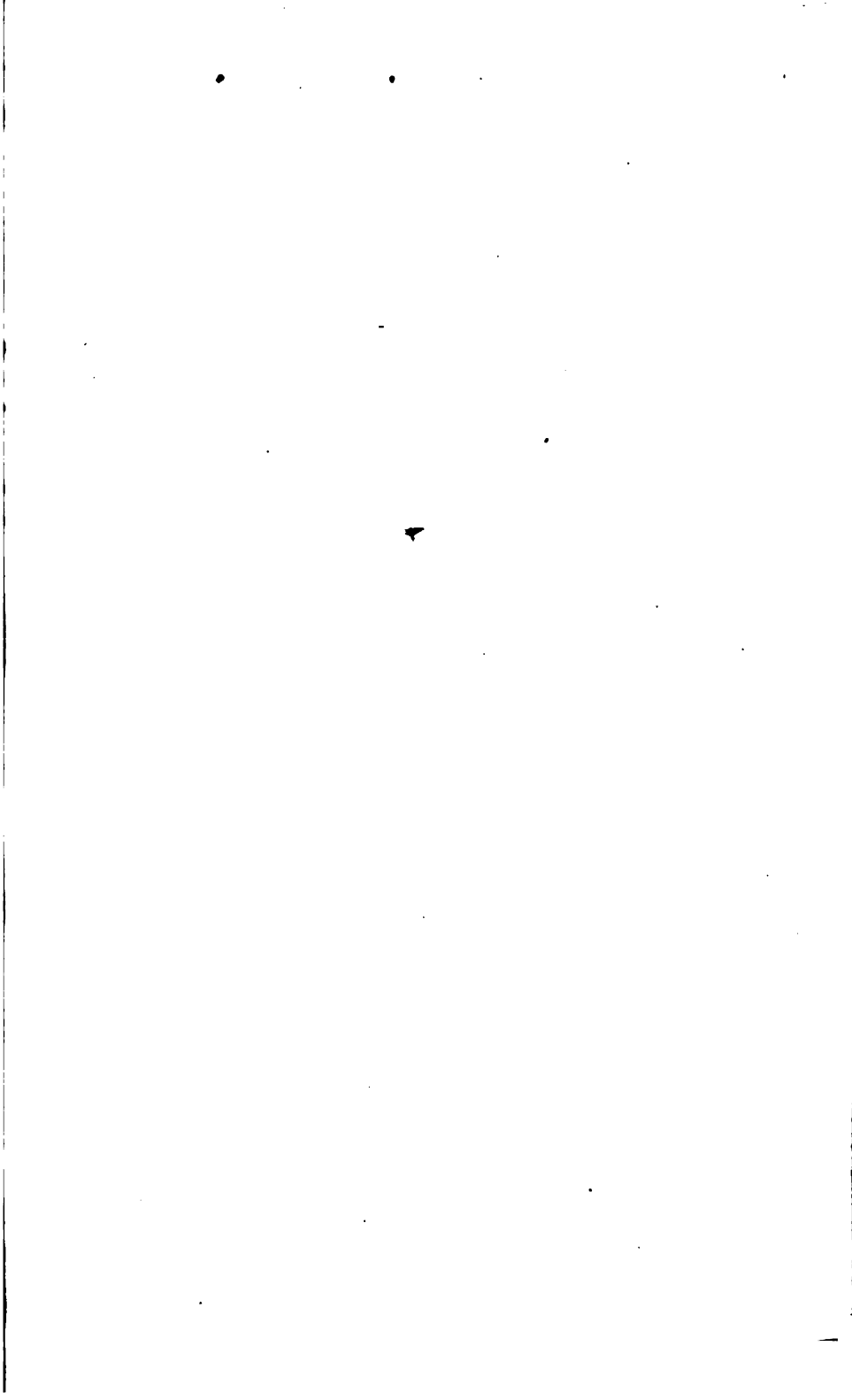
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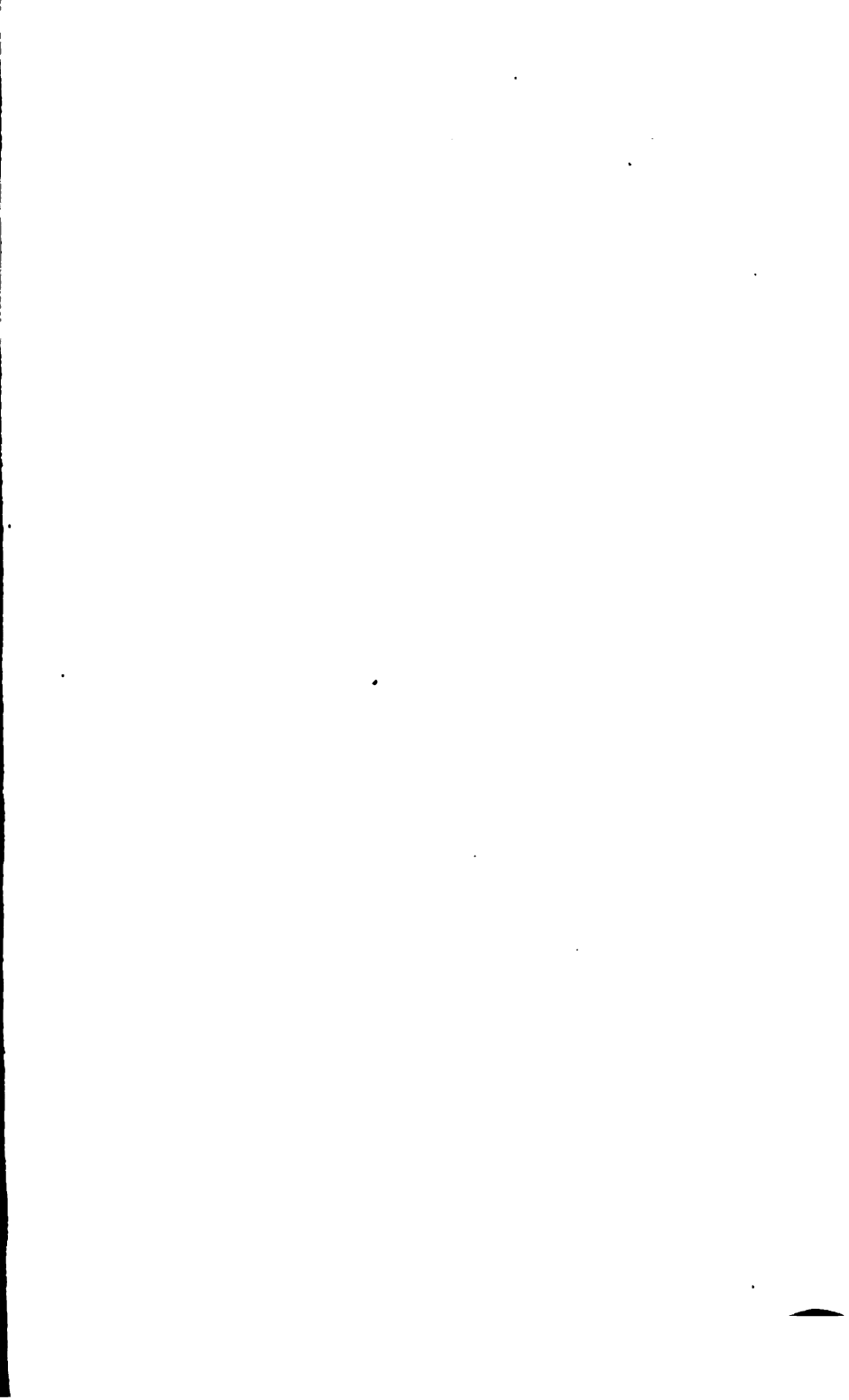
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AN

EPHEMERIS

OF

MATERIA MEDICA, PHARMACY,

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AND

COLLATERAL INFORMATION.

JANUARY, 1900.

BY

EDWARD H. SQUIBB, M. D. (JUNIOR.)

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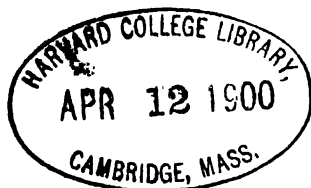
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AN EPHEMERIS

OF

MATERIA MEDICA, PHARMACY, THERAPEUTICS
AND COLLATERAL INFORMATION.

VOL. VI. JANUARY, 1900. No. 1.

BRIEF COMMENTS ON THE MATERIA MEDICA,
PHARMACY AND THERAPEUTICS OF THE
YEAR ENDING OCTOBER 1, 1899.

By E. H. SQUIBB, M. D. (JUNIOR)

ALPHABETICALLY ARRANGED.

Read by title at the Sixteenth Annual Meeting of the New York
State Medical Association on October 26, 1899.

It appears to be quite necessary to again remind those who criticise the writer's plan and scope in these Comments that the original design was to abstract from the results of the clinical experiences reported in the prominent current medical literature, and this has been quite closely followed for the past seven years. It must not be expected that the claim of every investigator for his new agent will receive attention, for such is far beyond the scope intended. Again the readers of these Comments should bear in mind that if any information be desired concerning any statement that has been made the writer should be addressed and *not* his

father—Dr. E. R. Squibb. Thus much time and annoyance, to say the least, will be avoided.

Acetanilid (Antifebrin) has unfortunately lost none of its dangers during the past year. Its use has been pushed in some new fields however with very varying results. Some of the few comparatively newly-tried fields may be mentioned.

Mr. Charles J. Barry, of Fulham Road, London, S. W., England, has met with success in its use in the treatment of sunstroke. He relates a case and concludes by stating:

“My object in writing these few notes is to bring forward the merits of a comparatively little-known drug in reducing temperature in a disease which usually claims its high mortality of 50 per cent., from the excessive pyrexia set up by some obscure form of vasomotor paralysis. Acetanilide (antifebrin), in my opinion, is a good and safe antipyretic when given in small doses with port wine or brandy.” (*Brit. Med. Jour.*, Vol. II, for 1898, page 1550.)

Dr. Edmund C. Brush, of Zanesville, Ohio, presented a paper to the Section on Practice of Medicine at the annual meeting of the American Medical Association held at Columbus, Ohio in June last, on “Acetanilid in Typhoid Fever, with a Report of Six Cases.” They were cases which originated at Camp Thomas, Chickamauga, Ga. In addition he saw ten other cases, but the details of these are not given. He closes as follows:

“It is to be remembered that these patients were robust young men, that the feeding and care given them was systematic, and they never questioned what was to be done.

“I do not present this paper because I think that I have found *the* treatment for typhoid fever, but because in using acetanilid, I had success, and I believe that, used with judgment, it is a valuable remedy in treating typhoid fever. Please observe that no attempt was made to produce a sudden fall in the temperature by using large doses. I preferred to give small doses and by repeating them produce a

gradual decline in the fever. Excepting one case, three grains was the largest dose given.

"Furthermore none of the remedies used were given unless their need was clearly indicated. The whole idea was not to medicate, but to pilot the patients through the rapids of the disease and to land them on the shore of recovery."

The discussion which followed the reading of the paper is of interest. (*Jour. Amer. Med. Assoc.*, Vol. XXXIII, page 582.)

The use of Acetanilid in surgery has apparently not abated, and the following case will illustrate the excess to which it has been used. Dr. M. D. Schmalhorst, of St. Louis, Mo., "literally stuffed full" with Acetanilid a six-inch scalp wound with fracture and depression at each dressing, and states that the result was all that could be hoped for. He also used large quantities in a compound comminuted fracture of the leg. He states he has been using it exclusively for three years for he finds it cheap and non-toxic and "will clear up an infected wound quicker than anything I have ever used either in hospital or in private practice." (*N. Y. Med. Jour.*, Vol LXIX, page 358.)

The question of forming an Acetanilid habit has recently been brought forward most prominently. Dr. Amelia Wood Gilmore, of Auburn, N. Y., presents "a clinical experience of the prolonged daily ingestion of Acetanilid which, so far as I know, is without parallel. For a period of 20 months less 4 days there was daily use of 5 to 10 grains of the drug combined with an equal amount of sodium bicarbonate." The patient was suffering from a carcinoma of the uterus. (*Phila. Med. Jour.*, Vol. 3, page 1423.)

The danger from the so-called "Headache Powders" is still as important a question as ever. The use of such powders is surely on the increase. It has been recommended that their composition be required on each package with the idea of attempting to minimize the evil results by thus

warning the patients of the dangerous ingredients. This, however, would probably have very little effect for the reason that the sufferer thinks little of the danger at the time—only looking for relief. Legislation is also suggested, but even this cannot put reason into the minds of those who are utterly oblivious to their own welfare.

Prof. J. W. Baird recently contributed the following notes from the Analytical Laboratory of the Massachusetts College of Pharmacy:

“In order to determine the ingredients in some of the more commonly used

HEADACHE PREPARATIONS,

Mr. Geo. A. Wilson, Ph. G., obtained thirty-six different preparations and submitted them to a qualitative analysis. Twenty-nine of the samples were obtained through the wholesale houses and are those that are largely advertised in Boston. The remaining seven were purchased from different retail stores of good standing and were sold on inquiry for ‘something for headache.’

“In the analysis attention was paid to the active ingredients principally, and little or no time was spent upon diluents, coloring matters, aromatics, etc.

“The following is the list of articles and the number of samples in which each was found:

Acetanilid	in 30 samples
Sodium Bicarbonate	“ 19 “
Caffeine	“ 14 “
Phenacetine	“ 5 “
Tartaric Acid	“ 4 “
Potassium Bromide	“ 3 “
Camphor	“ 3 “
Camphor Monobromate	“ 2 “
Sodium Salicylate	“ 2 “
Quinine Sulphate	“ 1 “
Potassium Bicarbonate	“ 1 “

Antipyrine	in 1 sample
Sulfonal	" 1 "
Ammonium Carbonate	" 1 "
Ammonium Bromide	" 1 "
Salicylic Acid	" 1 "
Potassium and Sodium Tartrate	" 1 "

"In addition to above, some contained sugar, milk sugar, celery, charcoal, calcium carbonate, and sanguinaria, while two evidently contained belladonna and gelsemium." (*New Eng. Druggist*, Vol. XI, page 524.)

Dr. Jacob Sobel, of New York city, has published an article on "Dangers of Headache Powders: Report of a Case, with Tests for the Suspected Ingredients" and recommends that all such powders should be fortified, if necessary, with such cardiac stimulants as caffein, spartein, camphor monobromate, etc., and that no more than 200 milligrammes (3 grains) of Acetanilid should be dispensed in any one powder, (*N. Y. Med. Record*, Vol. 56, page 477.)

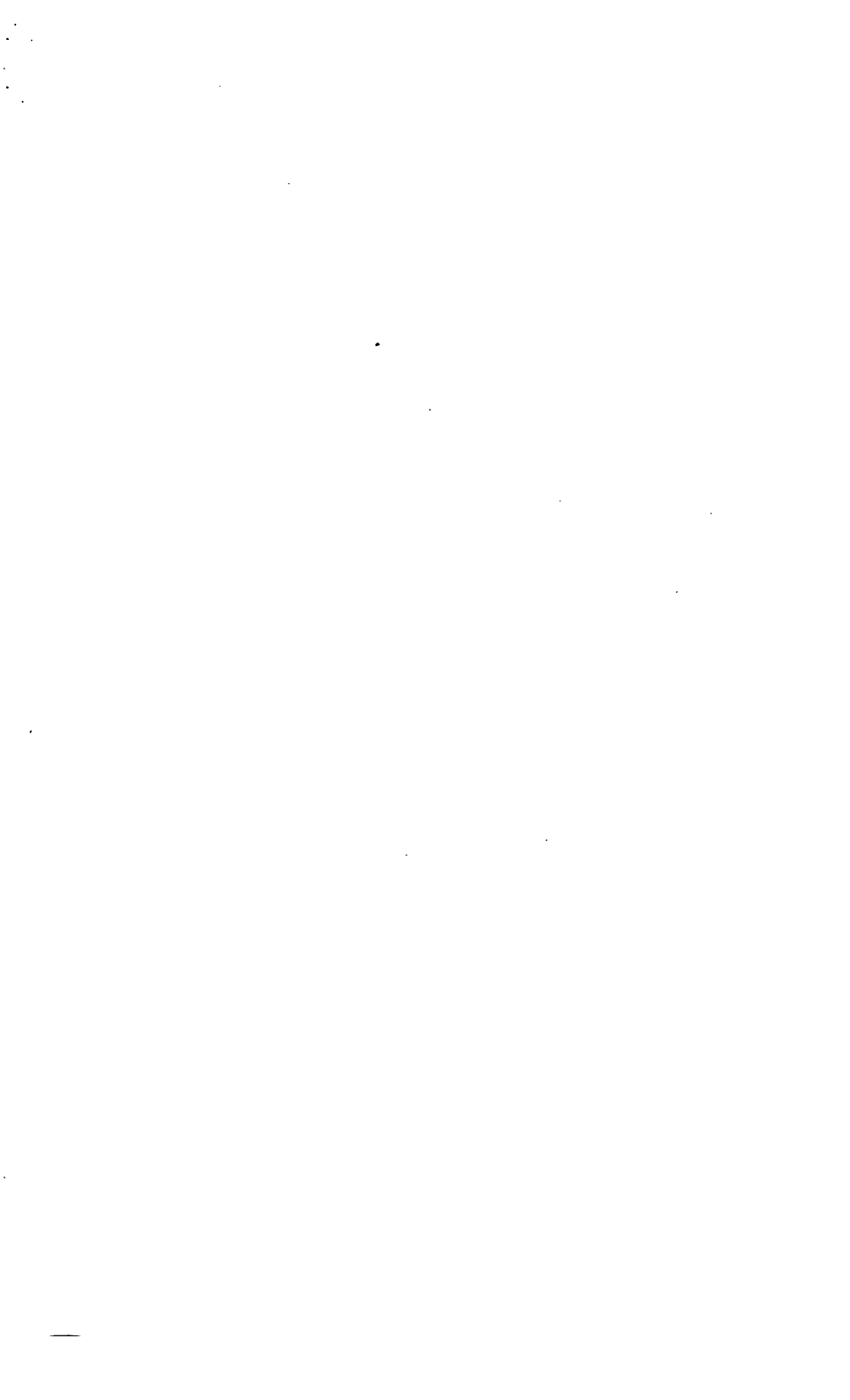
Dr. George F. Libby, of Portland, Me., reports gratifying results from the use of this agent in the treatment of sup-puration of the middle ear in a series of seventy-five patients covering a period of three years. He gives the history of ten of those cases. An explanation of the details of his treatment is interesting and of value to the specialist. (*Med. News*, Vol. LXXV, page 493.)

The poisoning cases reported are unhappily many for the past year. Only a few, therefore, of the most prominent will be mentioned here.

At a meeting of the Phila. Pediatric Society held on April 11th last Dr. T. S. Westcott, of Philadelphia, Pa., reported a case of poisoning after its application to the external surface of a female infant's thighs, aged 4 months. In the discussion which followed cases were related by Drs. Alfred Hand, J. S. Gillespie and Branson. (*Pediatrics*, Vol. VII, page 539.)

Dr. Frederick C. Keller, of New York city, has reported





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AN

EPHEMERIS
OF
MATERIA MEDICA, PHARMACY
THERAPEUTICS
AND
COLLATERAL INFORMATION.

JANUARY, 1900.

BY
EDWARD H. SQUIBB, M. D. (JUNIOR.)

• 36 DOUGHTY STREET,
BROOKLYN, N. Y.

1900.

this subject how complete the exhaustion of *Nux Vomica* is with an Acetic Acid menstruum. It has long been a well-known fact that after as complete an exhaustion as practicable with the officinal alcoholic menstruum, a very decided bitterness remains in the mark, but with Acetic Acid the mark may be chewed quite indefinitely without producing the slightest bitter taste.

The advantages of Acetic Acid as a menstruum over alcohol alluded to here last year have not only been thoroughly verified but the statements then made have been still more forcibly impressed upon those who have been working in this line. The following very broad statements or axioms may now be confidently laid down:

All the alkaloidal drugs are readily and thoroughly exhausted by this agent;

From a series of experiments now somewhat extended, Acetic Acid does *not* convert the alkaloids present into acetates but acts simply *as a solvent*;

As far as experiments now show, in 90 per cent. of those drugs which have been successfully exhausted, it is a better solvent than alcohol—producing an extraction more thoroughly representing the drug than was ever accomplished with the alcohol menstruum;

For the purpose of prescription writing, it is important to realize that all water soluble salts are soluble in Acetic Acid, and thus combinations of the Acetic fluid extracts with the bromides, iodides, sulphates and chlorides can be accomplished and without danger of decomposition;

The older preparations which are favored by many (especially the older practitioners), such as the aceta, decotions and infusions can be safely prepared from the Acetic fluid extracts;

After the experimental stage has been completed and sufficient time be allowed to offer a finished preparation by settling, the cost of the Acetic fluid extracts will be found to be very much less than the officinal alcoholic preparations.

As another illustration of the advantage to be obtained by the substitution of Acetic Acid for some of the mineral acids in the already officinal preparations, it may be interesting to mention that an Aromatic Acetic Acid has already been sufficiently tried to establish its superiority over the present officinal Aromatic Sulphuric Acid. This Aromatic Acetic Acid is prepared simply by substituting 99.5 per cent. Acetic Acid for the sulphuric acid in the formula used in preparing the officinal preparation. A vegetable acid is undoubtedly less irritating and more beneficial to the alimentary tract than a mineral acid, and therefore it is claimed that this combination will prove useful in many cases.

Acid Boric, sometimes called Boracic Acid, has undoubtedly an increased use in medicine, aside from its preservative qualities in other directions. It has recently been recommended in a somewhat new field—the treatment of pertussis.

Dr. G. Arbour Stephens, of Swansea, England, has written an article on "The Treatment of Whooping Cough," in which he uses a lukewarm Boric Acid lotion for rinsing out the ears night and morning. He relates eight cases, and concludes:

"I have given these 8 cases as typical of a cough which, after being under treatment for a few days, entirely lost the bouts of 'whooping,' though in some cases bronchitis lasted for several days. I could add many other cases to show both the ear symptoms and the effect of local treatment but do not think it necessary. As an explanation of the pathology of these cases I consider that there is a small local inflammation in the meatus starting independently of or succeeding to an attack of measles, and that this inflammation irritates the nerve filaments which are connected with the root ganglion of the vagus and so stimulates the vagus itself in some or all of its branches. The laryngeal branches will account not only for the spasm but also for the 'whoop' by producing a temporary trophic

lesion of the laryngeal mucous membrane against which the cold air, which is invariably drawn in through the mouth, strikes. I also think a similar trophic lesion of a temporary nature occurs in the stomach and lungs by a passing irritation of the vagus branches which results in the secretion of a large amount of mucous." (London *Lancet*, Vol. II for 1898, page 1471.)

Dr. S. Glanville Morris, of Nantgaredig, Carmarthen, Wales, relates two cases treated according to the same method, and reports that both children appeared to be well by the fifth day. (London *Lancet*, Vol. II for 1898, page 1702.)

Acid Cacodylic, a new organic arsenical compound lately experimented with as a substitute for the ordinary arsenic preparations. Chemically this acid is known as Di-Methyl Arsenine (Cacodyl) Hydrate. It is described as a crystalline, odorless compound containing 54.4 per cent. of metallic arsenic which is equivalent to 71.4 per cent. of arsenic oxide (known as arsenous acid), and soluble in water. The name Cacodyl was long ago given to Di-Methyl Arsenine on account of its very offensive odor. Some observers have claimed that all the Cacodyl compounds are non-toxic, but Dr. Herman Gijselman, of Batavia, Java, claims to have proved the contrary. (*Wien. klin. Wochensch.*, Vol. XII, page 363.)

Dr. J. Renault, of Lyons, France, presented a communication at the meeting of the Paris Academy of Medicine held on May 30th last in relation to the therapeutic value of Sodium Cacodylate (*Bull. de l'Acad. de Méd.*, Vol. XLI, page 545). He made use of it at the suggestion of Dr. Gautier.

Dr. Gautier then contributed a paper at the next meeting of the Paris Academy of Medicine on June 6th on the therapeutic uses of Cacodylic Acid and its Compounds (*Bull. de l'Acad. de Méd.*, Vol. XLI, page 604).

It will be noticed that the two observers differ slightly in their opinion of its action.

Its prominent use has been in skin diseases, from which some favorable results are reported, chiefly in old obstinate cases of psoriasis.

The disagreeable odor given to the breath was obviated by using hypodermic injections. The sodium salt of this acid was made use of in this way. About an average dose was from 300 to 600 milligrammes (about $4\frac{1}{2}$ to 9 grains). Marked improvement in the physical signs was reported at the end of such treatment. The cases are apparently too few as yet upon which to base a definite opinion as to its usefulness, for the general hygienic conditions required were important factors in the improvement noticed.

Dr. Danlos, of Paris, France, who had used this acid and reported upon it some five years ago, now takes pains to report again at the meeting of the Paris Medical Society of Hospitals on June 16th last his still further favorable results (*Bull. et Mémoires*, Vol. 16, page 588.) He used the sodium salt up to 40 grammes (about 617 grains) daily, both subcutaneously and by the mouth. He has treated some sixty cases of psoriasis with good results although he has to note a tendency to relapse. By internal administration this acid has produced good results in his hands in lupus erythematosus and in tuberculosis of the skin. He obtained negative results in acne pustulosa, lupus vulgaris and mycosis fungoides. He claims the advantages of this agent are its greater tolerance than the ordinary arsenic preparations, and its applicability to hypodermic medication, producing most effective and painless results.

Other observers have reported on the use of this acid as well as its sodium salt, but the above are the most important during the year.

Acid Carbolic (Phenol) appears still to be the most easily obtained and most "popular" poison for those who suddenly desire to end their trials of one kind or another. The list of poison cases in fact is rapidly increasing, and there is heard on all sides a demand for legislation by which

it is expected such control may be placed over the article as to prevent its being purchased indiscriminately. How much good such legal restriction will do is a question, but no doubt it will have some retarding effect. This question is a burning one not only in this country but abroad and even the English House of Commons has been appealed to.

Dr. J. Drysdale Buchanan, of New York city, has made use of alcohol to wash out the stomach in such cases of poisoning. He reports (*N. Y. Med. Record*, Vol. 56, page 241) using about two quarts of a 35 per cent. solution of alcohol. The patient had swallowed an ounce of 95 per cent. Carbolic Acid and entirely recovered although the face was badly burned and the mucous membrane of the mouth seemed entirely destroyed. Dr. Buchanan believes that this is the first time that alcohol had been used internally for the burns of Carbolic Acid, but Dr. Seneca D. Powell and Dr. A. M. Phelps, both of New York city, have long made use of this antidote and have reported their results.

At the stated meeting of the Medical Society of the County of New York on February 27th last, Dr. Powell read a paper on "Carbolic Acid in Surgery," again alluding to alcohol as a perfect antidote, and expressed without doubt his belief that one could wash his hands in 95 per cent. Carbolic Acid, and after allowing it to remain for a few minutes would not suffer if his hands were rinsed off with alcohol. He had thus been able to make good use of this observation in its external use in different forms of abscesses, and even went so far as to treat some very severe cases of empyema by swabbing out the pleural cavity with strong Carbolic Acid, followed up with injections of alcohol. Severe cases of erysipelas could be promptly checked by applying even strong Carbolic Acid until the skin was quite whitened and then following it up with the application of alcohol. In the discussion which followed the reading of the paper Dr. Carter S. Cole introduced the interesting observation that a 2 per cent. solution of Carbolic Acid was

found by him to be most beneficial in ivy poisoning. (*N. Y. Med. Record*, Vol. 55, page 372.)

Dr. Henry A. Leipziger, of Burlington, Iowa, read a paper on "Carbolic Acid Gangrene" before the Tri-State Medical Society at its meeting in April last in Quincy, Ills., and stated that even a 3 per cent. solution may produce gangrene. He quoted many of the older observers in confirmation of his claim. He particularly cautions surgeons against using it as a dressing for injuries of the extremities. (*Virginia Med. Semi-Monthly*, Vol. 4, page 3.)

Dr. Edward J. Brougham, of Chicago, Ills., reports two cases with the same results. He has noticed that "the gangrene produced is always sharply circumscribed, and corresponds to the skin area in relation with the drug; it also is apt to be produced only when the entire circumference of the part is in contact with the destructive agent." (*N. Y. Med. Record*, Vol. 55, page 91.)

Dr. Bernard Weiss, of New York city, has reported "A Case of External Carbolic-Acid Poisoning Treated with Sodium-Sulphate Solution." (*N. Y. Med. Journ.*, Vol. LXIX, page 21.) As Dr. A. M. Phelps points out, no doubt sodium sulphate does exercise a soothing effect in local Carbolic Acid poisoning, but it will not prevent the blistering or the deep escharotic effect of Carbolic Acid when applied to the tissues. (*N. Y. Med. Journ.*, Vol. LXIX, page 62.)

Notwithstanding the increasing number of cases of ill-effects from this agent, it has its place of usefulness. A few of the prominent cases reported somewhat out of the ordinary may be of interest here.

Dr. Wendell C. Phillips, of New York city, has written a paper recently on "A Preliminary Report upon the Use of Pure Carbolic Acid in the Treatment of Mastoid Wounds and Chronic Suppuration of the Middle Ear." He gives the histories, briefly, of six cases. He concludes with the following remark: "In those cases in which the wounds show no tendency to granulation, and the depressions are found

filled with pus, pure carbolic acid applied every other day causes small healthy granulations to spring up and greatly facilitates the final healing of the wounds." (*N. Y. Med. Record*, Vol. 56, page 332.)

Dr. J. S. Stone, of Boston, Mass., relates a case of the dangers of Bromoform, Carbolic Acid and whooping cough in which a two year old girl was made to suffer from each of the above inflictions, and yet live after apparent death. (*Boston Med. and Surg. Journ.*, Vol. CXL, page 160.)

Mr. Arthur Wigglesworth, of Liverpool, England, has written a "Note on the Treatment of Influenza by large doses of Carbolic Acid," and before relating a case he states that for many years he had been prescribing this agent in cases of influenza in doses varying from 450 to 500 milligrammes (about 7 to 8 grains) every two hours with rapid relief from all the symptoms. An accident, however, revealed to him that such doses could be increased considerably not only without danger, but with far greater beneficial effects. (*London Lancet*, Vol. 1 for 1899, page 958.)

The treatment of tetanus by this agent has received considerable attention throughout the past year. Dr. Vittorio Ascoli, of Rome, Italy, recently published a monograph on this subject in which he made use of hypodermic injections of this agent. He sums up his conclusions as follows:

"(1) Statistics show better results from the carbolic acid method than from the use of serum. (2) The carbolic acid must be given hypodermically and in large doses. (3) Under its influence the muscular contraction and spasms diminish in a marked degree. (4) The acid acts in tetanus particularly as an antitoxic and a moderator of the reflex activity of the nerve centres. (5) The energetic local disinfection, combined with the support of the patient's strength, are the cardinal points in the treatment of tetanus. (6) Serum treatment is useful as a preventive, and also in the developed disease when it is possible to apply it early or when the production of toxins is still going on. But the

results of this method, if they cannot be ignored, are neither convincing nor brilliant. Even if it were the most efficacious method, symptomatic treatment must not be neglected. (7) A patient suffering from tetanus must be treated eclectically, regard being had to the wound, to the intensity of the intoxication and its duration, and to the special conditions present in the case. Carbolic acid in large measure fulfils the indications, and is therefore suitable for the majority of cases." (*Epitome of Brit. Med. Journ.*, Vol. I for 1899, page 15.)

Dr. D. Flavel Woods, of Philadelphia, Pa., has also reported a case of tetanus treated with Carbolic Acid, and states that this case was the only one he had ever seen recover. He concludes that this agent to be effective must be used in large and heroic doses, and in such is much more reliable than any serum he had ever tried. He also reports a case of tetanus in a horse being cured by the use of this agent at his suggestion. (*N. Y. Med. Journ.*, Vol. LXX, page 377.)

Dr. E. G. Barnes, of Eye, Suffolk County, England, reports on the use of strong Carbolic Acid "To get rid of Ants." He reports having used it on at least three occasions after carrying out the following plan:

"In the first place, ascertain by observation at what points the ants enter the house or store cupboard. It will usually be found that they do so, not by the open door or window, but through a crevice between the boards of the floor or between the skirting and the floor. Having found this, apply strong carbolic acid by means of an ordinary camel's hair brush, well into the crevice, and repeat the treatment for three or four days, watching meanwhile to see if the ants find a fresh place to enter, in which case that should of course be treated in the same way. At the expiration of this time, my experience is that the enemy is permanently routed. This plan is preferable to washing with carbolic acid in solution, or to exposing carbolic acid in

saucers, as by so doing the food in the store cupboard is apt to absorb the carbolic vapour and acquire the characteristic taste. If good acid is used, such as one would use for surgical purposes, and applied as I have described, no unpleasantness results." (*Brit. Med. Journ.*, Vol. II for 1899, page 511.)

Mr. Walter Colquhoun, of Glasgow, Scotland, has reported on his use of "Carbolic Acid as a Test for Albumin." He opens his remarks as follows: "Early in the course of my practice I was led to investigate the delicacy of our common tests for albumin and to search for another test which would have the delicacy of the nitric acid test without its fallacies." After describing his experiments in detail he concludes: "I may state that since my investigations I can speak with certainty as to the presence or absence of albumin, whereas before I had undertaken them I would not like to have certified in certain cases." (*London Lancet*, Vol. I for 1899, page 1221.)

The important and valuable paper on "The Action of Hepatic, Renal and other Cells on Phenol and Indol, under normal and pathological conditions," written by Drs. C. A. Herter and A. J. Wakeman and read before the Association of American Physicians on May 4th last is worth putting on record here simply for the benefit of those who desire to look up the subject in future. (*Journ. of Exper. Med.*, Vol. IV, page 307.)

The question as to what produces the change of color to a red or brown tint in Carbolic Acid is still a mooted one. Some still persist in the claim that green-glass bottles have a marked effect in producing that change. Others give iron, copper, ammonia or less rational explanations, but "A Note on the Cause and Prevention of Color-Changes," by Dr. A. I. Hoon, of Mercer, Pa., deserves attention. He firmly believes, by actual experiment, that the color develops in cork-stoppered bottles and not in those stoppered with glass. He has placed his samples under varying con-

ditions of exposure and has carried on his observations for somewhat over three years. He very rightly urges other observers to make similar tests and publish their results. It is however feared from some practical experience already known by others, that the cork stoppering will not yet account for the change. Observations are still being continued on the question as to whether or not sulphurous acid be the agent in preventing the discoloration. It is quite a well-established fact that the higher grades of Carbolie Acid carefully separated by distillation between very definite temperatures are far more apt to change color than fractions separated a little further along in temperature where the sulphur compounds in the coal-tar are split up and retained in the resulting product. Such a product, however, has not the very fine aromatic odor of the finer grades of Carbolie Acid, but does appear to remain colorless, which the better qualities of Acid do not.

There is now offered in England a combination consisting of 50 per cent. of liquefied Carbolie Acid with hard and soft soap. This has been given the name of "Carbo-Sapol." It is presented in the form of a thick, dark reddish-brown liquid which mixes very readily with water in all proportions. Its action upon the skin is free from any irritation and leaves it quite soft. It is recommended to the surgeon for washing out towels, sponges and other material used in his operations.

Acid Chloralb is the name given to a combination of chlorine and the albumin contained in cow's milk.

Prof. W. Fleiner, of Heidelberg, Germany, has investigated its therapeutic effects in diseases of the stomach, particularly in carcinoma of that organ. He makes use of it in doses of 1 gramme (15.4 grains) administered immediately after washing out the stomach in the morning, as well as before the meals in the middle of the day and in the evening. He finds that it acts on the intestinal tract as well as on the stomach and is most useful in atonic affections due to

loss of appetite, diminished secretion of hydrochloric acid, abnormal amounts of organic acids, and deficient intestinal absorption with constipation. He would class this new therapeutic agent not as a drug but rather in an intermediate position between the so-called nutrient salts and the nutritive preparations. (*Muench. Med. Wochensch.*, Vol. 46, page 1.)

Acid Citric has been recommended for the treatment of ozena by Dr. Hamm, of Brunswick, Germany, who has led up to the point of using it from the well-known fact that all fruit juices act as effective deodorizers. His results proved that it not only removed the peculiar foetor but exerted healing properties. He employed it in several cases with very prompt and lasting effects. His plan was to rinse out the nose thoroughly every morning and introduce, by insufflation, a mixture of equal parts of Citric Acid and Milk Sugar three times a day. The secretion also promptly lessened. (*Muench Med. Wochensch.*, Vol. 46, page 480.)

The following formula has been suggested to disguise the bitter taste of quinine:

Quinine Sulphate.....	4 grammes (	61.7 grains)	
Citric Acid.....	10	"	(154.3 ")
Simple Syrup	10	"	(154.3 ")
Syrup of Orange Peel.....	10	"	(154.3 ")
Distilled Water, sufficient quantity			
to make	20Cc.		(324.6 minims)

Ten drops of this mixture is directed to be poured into 50 grammes (about 1½ fluidounces) of water and then 3 grammes (46.3 grains) of Sodium Bicarbonate added. This should be swallowed while it is effervescing. (*Gaz. degli Osped. e delle Cliniche*, Vol. XIX, page 1648.)

Acid Lactic is claimed by Dr. Sneguirev to play the part of a natural antiseptic in preventing the development of the various microbes found in the vagina for he claims to have proved that the acidity of the vaginal mucous is due to

Lactic Acid being present. Thus he was led to use solutions of this acid to destroy infectious bacteria. According to his observations a 3 per cent. solution introduced in the form of a douche not only acted as a deodorizer on the discharge but changed its color and checked the leucorrhea. Endometritis was "cured" by applying this acid either in the form of a powder or solution to the cervix and cavity of the uterus, causing copious desquamation of the epithelium. (*Jour. de Med. de Paris*, Vol. XI, page 316.)

Acid Picric (Tri-Nitro-Phenol) is being used in about the same class of affections as reported upon last year. It has been pretty generally observed that it is most effective in the treatment of burns of the first and second degree.

Dr. Dakhyle has written A Critical Contribution to the Study of Picric Acid in the Treatment of Burns. (*Le Progrès Médical*, Vol. IX, third series, page 7.) He claims that it is the best topical application to hasten the cicatrization of burns, being well adapted for both children and adults. He asserts that it is of value in superficial burns of the second and third degrees, but he does not approve of it in very young children. In the case of superficial burns he makes use of a saturated solution in ether or alcohol. In cases of chronic suppurating burns he used it with iodoform and ichthyol.

Dr. Ian MacDonald of the Rio Tinto Company, Spain, reports on the use of this Acid in superficial wounds, and makes the following claims for it:

"In my experience Picric Acid has not caused toxic symptoms either in children or adults. I venture to say that a closer examination of the so-called toxic cases will reveal the fact that the symptoms were precisely those of septic absorption so commonly observed in grave burns under any treatment.

"The advantages of Picric Acid in superficial burn treatment may be briefly summed up as follows: (1) Simplicity of

application; (2) painlessness; (3) rapidity of healing due to—(a) epidermisation under scabs (b), a favouring of epithelial growth, (c) a minimum of suppuration; (4) absence of local irritation, or of general toxic effect; (5) a smoother, more natural cicatrix than that obtained with other methods." (*Brit. Med. Jour.*, Vol. I for 1899, page 1152.)

Dr. F. Radaeli reports his results obtained in Prof. Pellizzari's Clinic in Florence, Italy, in cases of eczema of different forms. He obtained satisfactory results in a number of cases of acute eczema of the scalp, chronic eczema, diffuse acute eczema, eczema impetiginoides of the face and the like. (*Epitome of Brit. Med. Jour.*, Vol. I for 1899, page 40.)

Acoine is a very recently introduced local anaesthetic described chemically by the long name of Di-Paran-Isyl-Mono-Para-Phenetyl-Guanidin Hydrochlorate. It has not been further described in the way of preparing it, and therefore is probably not of much prominence as yet although it is claimed to have some advantages over cocaine. It appears to be less toxic and does not affect the accommodation. The paper introducing it was written by Dr. Trolldenier of Dresden, Germany, and will be found in the *Therap. Monats.* (Vol. XIII, page 36.)

Dr. Robert L. Randolph of Baltimore, Md., has published a report under the head of "A Communication upon Acoin—a New Local Anaesthetic." He has experimented upon rabbits using it both in the powdered form and in varying strengths of solution. He has also made use of it in the proportion of 1 to 100 and 1 to 300 in the human eye, and reports that in many respects it is not as satisfactory as either cocaine or holocaine. (*The Ophthalmic Record*, Vol. VIII, page 401.) If the eye be congested or irritated repeated instillations will not give satisfactory anaesthesia, will not act as rapidly and produces rather more of a stinging sensation than the other anaesthetics. No doubt more will be heard about this agent later.

Actol (Silver Lactate) has been little commented upon throughout the past year. It however is still under observation but with little new concerning it from even those who have thought well enough of it to mention their results. The acute stage of gonorrhea seems to be the particular affection for its use.

Airol (Bismuth Oxy-Iodo-Gallate) has not received much attention in the medical journals of the year.

Dr. F. Cerato has made use of it in different forms of enteritis. He states that he has used many agents with very varying results. For instance he found small doses of calomel and opium of some use in dysenteric catarrh but useless in serous catarrh of the intestinal tract. Even these agents have their disadvantages. He has experimented with tannic acid, krameria, colombo, bismuth, tannigen and tannalbin with some temporary results, but the diarrhea returned. He then made use of Airol in nine consecutive cases in doses varying from 325 to 500 milligrammes (about 5 to 8 grains) repeated frequently with excellent results. To the iodine present is due most of the good results although its astringent properties are marked. (*Gaz. degli Osped. e delle Cliniche*, Vol. XIX, page 1502.)

Dr. L. von Lesser, of Leipsic, Germany, read a paper "On Antisepsis" before the Medicinische Gesellschaft of that city. He apparently was looking for an iodoform substitute and he asserts that Airol was the only satisfactory one he had made use of. His experience covers nearly three years in almost all operative and other wounds. (*Deut. Med. Wochensh.*, Vol. XXV, page 10.)

Dr. M. Eberson of Tarnow, Austria, has published an article "Upon Airol" in which he has made good use of it as a surgical dressing as well as for perineal ruptures after childbirth. He claims better results than with any other antiseptic. He uses limited quantities and first dusts it on lightly, then places a layer of Airol gauze on top, after

which an ordinary sterilized gauze completes the dressing. (*Therap. Monats.*, Vol. XIII, page 31.)

Amyloform—the patented substitute for Iodoform formed by the combination of Formaldehyde with Starch—has received very meagre attention in the literature of the year.

Dr. A. Heddaeus, of Heidelberg, Germany, seems to be the most prominent observer at this time. He has published his results in a paper entitled "Clinical Experiences with Two Iodoform Substitutes—Amyloform and Iodoformogen." He finds the former a valuable antiseptic in superficial suppurative wounds. It does not irritate and no ill effects are noticed after extensive applications. (*Muench. Med. Wochensch.*, Vol. 46, page 379.)

Anæsthesia as a topic for discussion of much interest and importance has been constantly before the medical profession throughout the past year. The little flurry among some surgeons who were advocating a certain mixture has quite passed off, but a new substitute for the petroleum-ether element has constantly been sought for.

Dr. Horatio C. Wood, Jr., of Philadelphia, Pa., has carried on some experiments on animals with the mixture of ether, chloroform and benzene (the so-called petroleum-ether). He has published his results under the title of "Benzine in Anaesthetic Mixtures" (*Phila. Med. Jour.*, Vol. 3, page 843.) He remarks that "clinical reports are, however, in such matters, notoriously deceptive, because each anaesthetizer sees a number so comparatively small that chance may give one man always favorable results, while another will find in the new anaesthetic nothing to encourage." He then makes a very convenient table of the clinical reports he finds throughout the American literature, and draws some final deductions stating that in the light of its action on the lower animals his conclusion would be that benzine is a dangerous component.

Dr. Henry J. Garrigues, of New York city, who was one of those enthusiasts who recommended the new mixture for

general use has now felt it his duty to inform the profession that he feels called upon to change his opinion in regard to its safety. He bases the reason for his change of opinion on five cases of dangerous respiration among a little more than a hundred of his patients to whom Schleich's mixture was given. He therefore does not feel warranted in using it again in spite of all its excellent qualities. (*Med. News*, Vol. LXXIV, page 27.)

Dr. Willy Meyer, of New York city, has now found a new third ingredient for the new anaesthetic mixture, based on the Schleich principle of action. He has continued to make use of his so-called molecular solution of chloroform and ether (proportion of 43.25 per cent. by volume of chemically pure chloroform and 56.75 per cent. by volume of absolute ether), but found the boiling point still too high. He sought a third ingredient and finally settled upon ethyl chloride in the following proportions for the ingredients: 83 per cent. by volume of the above chloroform and ether mixture and 17 per cent. by volume of ethyl chloride. This it is claimed makes a clear liquid of very agreeable odor. He admits that this new mixture must be given by the drop method, thus giving evidence that care must be used in the administration. This care, it is rightly claimed by the skeptical, should be exercised with any and all anaesthetic mixtures.

Dr. August Bier, of Kiel, Prussia, has contrived a new device for producing anaesthesia. He makes use of lumbar puncture by the well-known Quincke's method after first locally anaesthetizing the part by Schleich's infiltration. He then injects into the spinal cord sac a dilute solution of cocaine in small quantity. This produces apparently a complete analgesia below that point, coming on in about ten minutes after injecting. He has even been able to perform major operations with practically no pain, and the patient loses neither the sensation of touch or of temperature. He has experimented upon himself and his co-worker and re-

ports that the only unlooked for result has been a slight loss of the cerebrospinal fluid. (*Deut. Zeitschr. für Chirurg.*, Vol. 51, page 361.)

Those who desire to keep track of the different forms of inhalers will be interested in the simple inhaler for the combined administration of gas and ether, recommended by Dr. Charles H. Peck, Attending Surgeon to the French Hospital, and will not only read what he claims for it but see an illustrative cut in the *N. Y. Med. Journ.* (Vol. LXIX, page 724).

Aneson (Tri-Chlor-Pseudo-Butyl-Alcohol) or Acetonchloroform is a local anaesthetic which is now brought forward as a substitute for cocaine. It is not really new but was more or less discarded for the reason that it was insoluble in water. After this objection was overcome, it was found that the soluble product now offered could be made up into 1 or 2 per cent. watery solutions, which upon trial, were found to be equal in anaesthetic effects to a 2 or 2½ per cent. solution of cocaine. Such solutions are reported to be stable. It is less toxic than the other well-known local anaesthetics.

Dr. Mosbacher, of Bochum, Prussia, publishes the results of his trials. (*Muench. Med. Wochensch.*, Vol. 46, page 81.)

Dr. Friedr. Göppert, of Breslau, Prussia, has applied it in the form of a solution as a local sedative in painful mouth affections of children. The anaesthetic effects lasted about an hour and a half when applied to the inflamed mucous membrane on a cotton wad. (*Jahrbuch für Kinderheilk.*, Vol. XLIX, page 101.)

Antinosin (Sodium salt of Tetra-Iodo-Phenol-Phthalein) still receives prominent consideration in eye, ear, nose and throat affections, and probably those specialties may be classed as the chief field of its usefulness during the past year.

However, Dr. Wm. D. H. Brown, of Chicago, Ills., reports four cases of varicose ulcers of the leg showing rapid im-

provement under the use of this agent and its allied product, Nosophen. (*Tri-State Med. Journ.*, Vol. VI, page 285.)

Dr. R. F. Amyx, of St. Louis, Mo., has used it in the treatment of enuresis, cystitis and urethritis. He reports on three cases. (*N. Y. Med. Journ.*, Vol. LXIX, page 779.)

Antipyrin (Phenazone) is too wide spread in its use to make any systematic attempt to catalogue what has appeared in the literature of the year. Some of the prominent observations however may be mentioned.

Dr. J. Comby, of Paris, France, has made good use of Antipyrin and arsenic in severe cases of chorea. He claims that Antipyrin should be given in large doses three or four times a day to have its best effect. As high a limit as 500 milligrammes (about 8 grains) a day for a one-year-old child can be reached, but not exceeded. This should not be given at once but by gradually increasing. He recommends the following formula to be given a ten-year-old child:

Antipyrin	15 grammes (about 231.5 grains)
Syrup of Orange Peel. 40	" (" 617.3 ")
Distilled Water	200 " (" 7 ounces)

(*Archiv. de Méd. des Enfants*, Vol. II, page 193).

Dr. Ulisse Francini reports satisfactory results in the treatment of menstrual epilepsy after using a mixture of 325 milligrammes (5 grains) of Antipyrin and 130 milligrammes (2 grains) of sodium carbonate three or four times daily. He had previously treated such a patient with bromides unsatisfactorily, but obtained good results with the Antipyrin mixture by beginning a few days before the expected period. It was then for the first time in five years that the period passed without the epileptic symptoms. His treatment was continued at subsequent periods with like favorable results. (*Gaz. degli Osped. e delle Cliniche*, Vol. XX, page 367.)

Reclus recommends the following ointment in the treatment of suppurating burns:

Antipyrin	5 grammes	(77.2 grains)
Boric Acid	5 “	(77.2 “)
Iodoform	0.5 to 1 “	(7.7 to 15.4 “)
Vaselin	40 “	(617.3 “)

(*Gaz. degli Osped. e delle Cliniche*, Vol. XX, page 384).

Dr. Alfred Fournier, of Paris, France, has reported on three cases of unusual eruption due to Antipyrin. It made itself evident in one case of eruption in the form of dark blotches in the skin of the penis, at times with swelling which appeared four and a half hours after the initial dose. The patients naturally were alarmed as they immediately expected gangrene to follow. The eruption subsided when the Antipyrin was discontinued. (*Ann. de Derm. et de Syph.*, Vol. X, page 371.)

As has long been known, Antipyrin has its dangers. In this connection Dr. Gaston Graul, of Würzburg, Bavaria, has carried on a series of experiments on himself. He administered to himself 1.0 gramme (15.4 grains) of Antipyrin and 0.09 gramme (1.5 grains) of caffein and citric acid, the mixture being in the form of the so-called “migrainin.” He inflicted this upon himself for over a week. He describes his feelings which will be interesting to those who are following up this line of its action. Some cases of whooping cough in von Leube’s Clinic in Würzburg showed convulsive attacks and stupor after administering this agent, which immediately disappeared on discontinuing. (*Deut. Med. Wochensh.*, Vol. XXV, page 44.)

Antipyrin Tannate has been suggested as having some advantages over pure Antipyrin, especially in administering to children, for it is almost tasteless. Its preparation is accomplished by dissolving separately 3.2 grammes (50 grains) of Antipyrin and 1.88 grammes (28½ grains) of tannin in 10 Cc. (162 minims) of water. The two solutions are mixed and Antipyrin Tannate is formed as a white precipitate which is filtered and dried at a gentle heat. The resulting powder is yellow, insoluble in water, but readily

soluble in alcohol. The equivalent of Antipyrin in the mixture is 37 per cent. (*Chem. and Drug.*, Vol. LV, page 334.)

Antitoxins as a topic of medical discussion and research is probably one of the most widespread of any throughout the past year. Their importance is rapidly becoming recognized and the skeptics grow fewer and fewer. It is less the habit now to claim extravagant results, and therefore whatever may be said on this topic is more worthy of attention, for more rational statements are now being made than even in the previous year.

Dr. Louis Cobbett has contributed some of his results from the Pathological Laboratory, of Cambridge, England, in the form of a report on "The Origin of Antitoxin; Is it Present in the Blood of some Normal Animals?" He divides his report into six different heads:

- "I. The Mode of Action of Antitoxin."
- "II. The Origin of Antitoxin."
- "III. Is Antitoxin present in the Blood of Normal Animals?"
- "IV. The Presence of Diphtheria Antitoxin in Normal Human Serum."
- "V. The Presence of Diphtheria Antitoxin in the Serum of certain Normal Horses."
- "VI. Is the Power of Neutralising the Action of Diphtheria Toxin which the Serum of some Normal Horses possesses due to the Presence of Antitoxin?"

In opening his first head he states that "the fundamental question whether it is a bacterial product or a secretion of the cells of the living animal is not yet disposed of." In concluding his second head he states that it remains yet undecided whether Antitoxin is formed out of its corresponding toxin or is an independent product of the animal organisms, although the balance of evidence seems to favor the latter hypothesis. In concluding his third head he

makes the statement that so far "we have not seen the presence of Antitoxin demonstrated in the blood of any normal animal." In carrying out the experiments reported under his fifth head he had examined the serums of fourteen horses and concludes that his results "merely confirm previous experience and show that the serum of many apparently normal horses possesses the power of neutralising the action of diphtheria toxin, both when mixed with it *in vitro* and when the two are injected separately into the animal's body." In concluding his sixth head he reports as follows:

"But if it be granted that the serum of certain horses which have never been subjected to any process of immunisation contains true diphtheria Antitoxin it by no means follows that this is a normal constituent of these animals; indeed, the fact that it is absent in a considerable number is opposed to this conception. On the other hand, I understand that horses are not known to suffer from any affection caused by the diphtheria bacillus. Nevertheless, this micro-organism may affect them in some way not yet discovered, or may perhaps partially immunise them while growing as harmless parasites in some portion of the alimentary canal. The presence of Antitoxin in these animals cannot therefore be held to throw any light on the origin of that substance.

"It is well known that the value of different horses for the purpose of yielding diphtheria Antitoxin varies enormously. If any method of selecting the right animals at the commencement of immunisation were known much time and work would be saved. One therefore asks whether the suitability of a horse for this purpose has any relation to the presence or absence of Antitoxin in the blood before any treatment is begun. To this question Meade Bolton gave a negative answer. My own experience is not yet sufficiently advanced to warrant any expression of opinion. But the matter is being now worked out by Dr. Dowson

and myself and we hope shortly to make some communication about it." (London *Lancet*, Vol. II, for 1899, page 332.)

In a statement made here last year relating to the failure to establish definite tests for diphtheria Antitoxin, it seems to have been inferred rather than directly stated, that Dr. C. T. McClintock, of Detroit, Mich., was a skeptic as to the value of Antitoxin. If this impression has taken hold of any readers, it is only fair to contradict it here as he was only skeptical of the worthlessness of the tests, and not of the value of the agent itself.

Statistics in regard to the value of diphtheria Antitoxin continue to accumulate and demonstrate its almost uniform success. Probably the most valuable records come from Boards of Health in various parts of the whole world, and thus the element of bias is minimized. The New York Board of Health is probably one of the most active in this line of investigation as in many others, and therefore the report made by Dr. Hermann M. Biggs, of New York city, which brings his results up to February, 1899, when he read his paper on "The Serum-Treatment and its Results," before the New York Academy of Medicine on February 16th last, is well worth attention. The investigations of the Board of Health have been carried on in relation to other affections than diphtheria, but he is obliged to conclude that "when the curative treatment is considered, in only one disease can it be said that serum-therapy has afforded us a perfectly satisfactory method of treatment, that is in diphtheria. In all of the others all of the practical problems remain as yet unsolved, but in some there is a reasonable prospect of an early solution." (*Med. News*, Vol. LXXV, pages 97 and 137.)

A contribution well worth the consideration and careful study of those who still waver in their belief that there is any benefit in the use of diphtheria Antitoxin, is that of Dr. E. W. Goodall, of the London (England), Metropolitan Asylums Board, "On the Value of the Treatment of Diph-

theria Antitoxin." (*Brit. Med. Journ.*, Vol I, for 1899, pages 197 and 268.)

Most observers seem to note the importance of the early use of the Antitoxin, particularly in diphtheria, but occasional cases are reported where its value has proved of service after late injections. Dr. A. M. Daldy, of Kingston-on-Thames, England, publishes in detail a case illustrating in a very striking manner the value of diphtheria Antitoxin injected even as late as the eighth day of the illness. (*Brit. Med. Journ.*, Vol I, for 1899, page 338.)

Dr. Louis Cobbett, of Cambridge, England, has reported "The Result of the Treatment of Diphtheria by Antitoxin in London, Compared with that in Paris and Berlin," which deserves attention from those who are keeping track of the statistics. Four clear descriptive charts are given showing the remarkable fall in the annual total number of deaths from diphtheria since the introduction of the serum treatment. (*London Lancet*, Vol. II, for 1898, page 1457.)

A great reduction in the rate of mortality from diphtheria after the use of this agent continues to be reported not only from the United States and England, but from Germany, France, Russia and Switzerland, embracing a large variety of geographical conditions under which the treatment was carried on.

The study of immunizing doses of diphtheria antitoxin is being carried on to some extent, and a report now comes from the Children's Hospital, at Washington, D. C., showing the results there. Dr. Samuel S. Adams of that city reports his results in the *Archives of Pediatrics* (Vol. XVI, page 409). He found that the average duration of immunity in 17 cases was 51.1 days. These 17 contracted diphtheria and received Antitoxin in curative doses. He seems to be justified in asserting that the larger the immunizing dose the longer the duration of the immunity. The only pathological effect noticed was urticaria in two cases.

In the same number of the above Journal (on page 428),

Dr. Ward B. Whitcomb, of Batavia, N. Y., reports on the administration of Antitoxin by the mouth for the purpose of immunization. The results were extremely satisfactory in the two cases in which it was administered, and the exposure is reported to have been extreme.

Dr. John Zahorsky, of St. Louis, Mo., also believes in the benefit derived from diphtheria Antitoxin when given by the mouth for immunizing purposes. He admits that it is absorbed far more readily subcutaneously, but by the mouth it enters the general circulation soon enough to be of much value as a prophylactic. He has observed that about thirty-six hours is needed for complete absorption when taken by the mouth. (*Archives of Pediatrics*, Vol. XVI, page 171.)

Dr. Charles Bolton, of Homerton, London, N. E., England, reports on "The Complications of the Serum Treatment of Diphtheria" in 100 hospital cases which is worthy of consideration. He remarks: "In conclusion, one may say that the complications of Antitoxin are at times very painful and inconvenient but quite harmless, the only exception being the case in which sloughing occurred, and in that case the child was in an exceedingly bad condition as the result of scarlet fever and diphtheria combined, when the Antitoxin was administered." (*London Lancet*, Vol. I for 1899, page 891.)

Dr. F. J. Woollacott also of Homerton, London, N. E., England, reports on "Diphtheritic Paralysis in Cases Treated with Antitoxin," and states that the results seem to show that by this form of treatment in the London Fever Hospital "the death-rate has fallen while the paralysis rate has risen." (*London Lancet*, Vol. II for 1899, page 561.)

Dr. Theodore J. Elterich, of Allegheny, Pa., has made "A Report of twenty-five cases of Laryngeal Diphtheria Treated by Antitoxin and Intubation." His mortality was 20 per cent. (*Archives of Pediatrics*, Vol. XVI, page 344.)

In contradistinction to the large proportion of medical

practitioners who favor and report satisfactory results from the use of Antitoxin, it may be of interest to some to know where to look for the arguments and reasoning of a skeptic. Therefore the reader is referred to the somewhat extended remarks of Dr. Adolph Rupp, of New York city, to be found in the *N. Y. Med. Record* (Vol. 54, pages 661 and 946) and again in (Vol. 55, page 121.)

Dr. J. Edward Herman, of Brooklyn, N. Y., also has something to say on "The Other Side of the Antitoxin question" in the form of a paper read before the Brooklyn Pathological Society on February 9th last. (*N. Y. Med. Record*, Vol. 55, page 348.) He again writes and reads before the same society on April 13th, an article on "The Failure of Antitoxin in the Treatment of Diphtheria." (*N. Y. Med. Record*, Vol. 55, page 739.)

The antipathy is so strong against the use of this agent characterized as "a dirty animal product," not only among some physicians but even among the laity that a more convincing argument appears to be necessary to convert them. Dr. M. A. Veeder, of Lyons, N. Y., has written a short note to the editor of the *Medical Record*, suggesting a new line of presenting the subject to the patients and parents. After giving a few preliminary reasons he states that he "has quite fallen into the habit of calling the serum the diphtheria preventive when talking to patients, instead of using the much more formidable and confusing term Antitoxin. In short, just as soon as it is explained that it is a preventive and not an antidote the thing goes very much better." (*N. Y. Med. Record*, Vol. 54, page 671.)

The statistics of most value are rightly looked for from hospitals, institutions, boards of health and the like where a large number of cases are available. Therefore little of value can be expected in the line of statistics from the general practitioner, and naturally little is heard from him in the way of reports. As the beneficial results become more convincing, however, it may be expected that general

practitioners will report more frequently. It may be of some little service then to report here that Dr. Palmer Heath Lyon, of New York city, read a paper before the Washington Heights Medical Society on March 30th last, on "Diphtheria: The Serum Treatment in General Practice." He reports on five cases and concludes as follows: "Let me call attention to the fact that while the disease is usually quickly terminated by this most valuable remedy, unfortunately after-effects may follow, as is so often the case with other and far less successful treatments. I am glad to say that in the cases cited such has not been the history." (*N. Y. Med. Journ.*, Vol. LXIX, page 777.)

Probably next to diphtheria, tetanus would follow in the frightful mortality already reported. The antitetanic serum treatment has already considerably diminished the mortality, but it is fully as important as in diphtheria, if not more so, that the injections be made early. The results have not been as encouraging as in the treatment of diphtheria, and therefore it may be profitable to report some of the encouraging cases for statistical purposes, if for no other.

Dr. T. E. Taylor, of Denver, Colo., read a paper before the Colorado State Medical Society on June 20th last, in which he reported one grave case of tetanus from which there was an interrupted recovery. (*Med. News*, Vol. LXXV, page 42.)

Dr. E. Tavel, of Bern, Switzerland, has been experimenting with antitetanic serum for some years past, and now reports that he has obtained a satisfactory article not from a dog, from which he first obtained it, but from a horse and that this has kept well and remained potent for a year. He placed it in the hands of several medical practitioners who tried it in ten cases, seven of which recovered slowly after some weeks. He points out that this contrasts favorably with another report made about the same time of eleven fatal cases out of thirteen where Antitoxin was not made

use of. (*Correspondenz-Blatt für Schweizer Aerzte*, Vol. XXIX, pages 193 and 235.)

Mr. Stanley Copley, of Camberwell, London, S. E., England, reports on the treatment of four cases of traumatic tetanus with Antitoxins. He concludes his report as follows: "In two of my cases which recovered, the infected part was amputated; in the third, the ulcer was scraped and cauterized with fuming nitric acid; in the fatal one, the edges of the wound were excised, together with a metacarpal bone, and the wound cleansed with formalin solution (1 in 80)." (*Brit. Med. Jour.*, Vol. I for 1899, page 337.)

Dr. F. K. Kleine, of Dr. Quincke's Clinic at Kiel, Prussia, reports two cases of traumatic tetanus cured with Behring's Antitoxin. (*Deut. Med. Wochensch.*, Vol. XXV, page 21.)

A fatal case of acute tetanus treated with Antitoxin is worth recording here, for it is a well-known fact that often much is learned from bad results, if sufficient detail be given. This case was reported from the Middlesex Hospital, England, under the care of the surgeon of the hospital, Mr. Andrew Clark. He states that the Antitoxin appeared to have no effect whatever in this case. (*Brit. Med. Journ.*, Vol. I for 1899, page 17.)

A case of acute tetanus successfully treated is reported by Mr. J. Galletly, of Bourne, Lincoln County, England. He concludes his report by stating that it "is so commonly followed by a fatal result that I think this case worthy of record in helping to form an opinion as to the usefulness of antitetanin; for, with the exception of a few doses of bromide of potassium and chloral hydrate during the first two days, and an occasional aperient, no drug was administered." (*Brit. Med. Journ.*, Vol. I for 1899, page 401.)

Dr. William M. James, of Whitesboro, N. Y., reports a case of tetanus of nineteen days' duration being successfully treated with Antitoxin. He concludes as follows: "In the past thirty-seven years as a practitioner I have seen and treated nearly thirty cases of tetanus, employing a great

variety of methods, but have always seen fatal results until this last experience." (*N. Y. Med. Record*, Vol. 56, page 372.)

Dr. C. L. Fraser, of Berwick-on-Tweed, Scotland, reports a severe case of traumatic tetanus successfully treated with Serum. (*London Lancet*, Vol. II for 1899, page 553.)

The treatment of tetanus by cerebral injections has been pushed quite energetically during the past year, and all the favorable cases are eagerly looked for.

Dr. George G. Rambaud, of Columbia University, New York city, has reported on this line of investigation, and gives "A Résumé of Reports of Cases and a Few Remarks on the Technique of the injection." His results were not very encouraging but much is to be learned from the details of his report. (*N. Y. Med. Journ.*, Vol. LXVIII, page 884.)

Dr. Charles A. Church, of Passaic, N. J., reports on the "Treatment by Trephining and the Intracerebral Injection of Antitetanic Serum." His case was the so-called Delaware Water Gap case of some notoriety throughout the medical world at that time, in which a favorable result followed. (*N. Y. Med. Jour.*, Vol. LXVIII, page 888.)

Dr. L. Ombrédanne reports on "A Case of Tetanus Treated by the Intracerebral Injection of Antitoxin" resulting in marked success. He accompanies this form of treatment with subcutaneous injection of Antitoxin, claiming to thus diminish or possibly arrest the further development of toxin in the blood. (*Presse Méd.*, Vol. 6, second half, page 132.)

Dr. G. Julliard, of Geneva, Switzerland, reports a case of traumatic tetanus treated by injections of antitetanic serum, which proved fatal and explains that his failure may have been due to a miliary tuberculosis, which proved by *post mortem* examination to have been present. (*Rev. Méd. de la Suisse Rom.*, Vol. XIX, page 279.)

At the meeting of the Paris Surgical Society on November 16th last the subject of the treatment of tetanus by intracerebral injection of Antitetanic Serum was under dis-

cussion, and reports were made by Dr. F. Hue, of Rouen, France, and Drs. Quénu, Lucas-Championnière, Reclus, Chaput, Richelot, Hartmann, Nélaton and Peyrot with very varying results, mostly unfavorable. (*Sem. Méd.*, Vol. 18, page 471.)

A report comes from the Darlington Hospital (England), of a case of tetanus treated by intracerebral injection of Antitoxin with recovery. The successful issue of the case is reported to have been largely due to the zeal and thoroughness of the attending house surgeon, and to the excellent and untiring nursing the patient received. (*Brit. Med. Journ.*, Vol. I for 1899, page 1333.)

Dr. Thomas D. Gimlette, Surgeon of the Royal Navy, reports a case of intracerebral injection showing "steadily progressive and perfect recovery." (London *Lancet*, Vol. II for 1899, page 89.)

Dr. William F. Gibb, of the Paisley (Scotland) Infirmary, reports a case of tetanus treated by intracerebral injection in which there was a good recovery. (*Brit. Med. Journ.*, Vol. I for 1899, page 895.) He, however, finally reported (*Brit. Med. Journ.*, Vol. II for 1899, page 9) the sequel to this case: "After the disappearance of all symptoms of tetanus, the patient again became seriously ill and died on May 5th, more than eight weeks after the last intracerebral injection. The results of the *post-mortem* examination leave but little doubt that the fatal termination of the case was directly due to the particular method of injection employed." The whole history of this case is worthy of careful reading.

Dr. D. Semple, of Netley (England) Army Medical School reports a case of intracerebral injection followed by recovery. "The advantage of giving the Antitoxin hypodermically in addition to intracerebrally" was evident in this case. (*Brit. Med. Journ.*, Vol. I for 1899, page 10.) Dr. James Watson, of Nottingham, England, expressing himself much interested in Dr. Semple's case, wrote to the editor of the *Brit. Med. Journal* (Vol. I for 1899, page 324)

that he would like to "suggest simplification of the operation for intracerebral injection." A peculiar kind of trocar-like drill is employed.

Dr. Albert Kocher, of Bern, Switzerland, reports on "A Simple Method of Trephining for Intracerebral Injections" and presents a cut of the instrument. He records a remarkable case which recovered after operation, but he would not state definitely that the recovery was due to either the intracerebral or the intravenous injections which he employed, for the patient might have recovered without the use of either. (*Centralblatt für Chirurg.* Vol., 26, page 643.)

A communication was made to the Lyons Society of Medical Sciences by Dr. Etienne Martin at a meeting in November last reporting the injection of Antitetanic Serum by lumbar puncture with a large trocar. Although the case was fatal the surgeons observing the results stated that they would repeat that practice in a similar case if it should occur, but immediately after the infection. (*Lyon médical*, Vol. LXXXIX, page 377.)

The treatment of snake-bite has been of increased interest throughout the year and some advance has been made in its treatment by Calmette's Antivenene. A series of experiments with the Antivenomous Serum has been carried on at the Netley (England), Army Medical School by Drs. D. Semple and G. Lamb, and they now report the details of their observations as to "The Neutralizing Power of Calmette's Antivenomous Serum: Its Value in the Treatment of Snake-bite." (*Brit. Med. Journ.*, Vol. I for 1899, page 781.)

At the annual meeting of the British Medical Association in Portsmouth last August, Mr. O. W. Andrews, Surgeon in the Royal Navy, read a paper "On the Preparation and Use of Calmette's Antivenene" in which he reports on twelve series of experiments carried on with much detail and care. In the discussion which followed, Dr. K. Macleod of Netley, England, stated "that it was an interesting physi-

ological and valuable practical fact that it was only the excess of snake poison in the blood that had to be dealt with. The fluids of the body could themselves deal with and neutralize a certain amount of the venom of snakes, and as only the excess had to be dealt with, a smaller dose than experiment would seem to indicate was all that was required." (*Brit. Med. Journ.*, Vol. II for 1899, page 660.)

It may be interesting to put on record here in this connection the old-fashioned Bibron's antidote to the poison of the rattlesnake:

Potassium Iodide	260 milligrammes	(4 grains)
Corrosive Mercury Chloride. 130	"	(2 ")
Bromine	20 grammes	(5 drachms)

Ten drops of this mixture was diluted with 15 to 30 grammes (1 to 2 tablespoonfuls) of wine or brandy.

Dr. C. J. Martin, Professor of Physiology in the University of Melbourne, Australia, has published a rejoinder to Dr. Calmette in relation to "The Curative Value of Calmette's Antivenomous Serum in the Treatment of Inoculations with the Poisons of Australian Snakes." In his concluding remarks the following expression occurs: "It is a matter of regret that I am unable to agree with M. Calmette concerning the value of his serum. Moreover, I am far from considering the test I subjected it to as too severe; but, on the contrary, I fear it was not sufficiently so, as I used in my first experiments only just over one fatal dose of the poison." In still further expressing his doubt as to the advantage of Calmette's Serum, he goes on to state "at the same time, I should be the last to fail to appreciate that M. Calmette's production of antitoxin is the outcome of pure enthusiasm for science and humanity. The tiresomeness, expense, and great patience required to produce a serum of any considerable antitoxic power against snake venom I know from personal experience, and I can only congratulate M. Calmette on having shown that it was possible to do this, and on having gained some measure of success. I doubt not

that he will soon succeed in procuring a serum possessed of greater potency, and I assure him that I shall be delighted to hear of his success, and to do what may be in my power to encourage its use in Australia." (*Brit. Med. Journ.*, Vol. II for 1898, page 1805.)

Experiments on the Antitoxic treatment of typhoid fever have been continued during the past year, but not with very striking results.

Dr. V. Jez, of Vienna, Austria, has made use of a so-called Antityphoid Extract obtained from guinea pigs inoculated with typhoid bacilli. He reports on his mode of procedure in the eighteen cases in which he employed it. He found that by administering it by the mouth he obtained better results than by subcutaneous injections. His results are well worth consideration and the trials should surely be repeated. (*Wien. medicin. Wochensch.*, Vol. 49, page 346.)

A case of Malta fever is reported by Drs. E. D. Fitzgerald and J. Hoggan Ewart, of Folkestone, England, as having been treated with Malta Fever Antitoxin. The patient recovered and has since reported that he feels perfectly well and strong again. This particular Antitoxin appeared to be known only to a few in England at that time and had to be obtained specially from the Army Medical School at Netley where some fifty cases were being treated with it. (*London Lancet*, Vol. I for 1899, page 1024.)

Much discussion has been going on recently, but particularly between two notable observers, in regard to the discovery of the so-called yellow-fever bacillus.

A report has already been made by the Commission of Medical Officers of the Marine Hospital Service to investigate the cause of yellow fever. An abstract of this report will be found in the *N. Y. Med. Journal* (Vol. LXX, page 299.)

Dr. Alvah H. Doty, Health Officer of the Port of New York, has been much interested in this line of investigation

and has carried on some important experiments in the treatment of yellow fever. Most practitioners are familiar with his first important case. The Serum used was produced in the Laboratory of the Health Officer and much general interest was taken in the results of its administration. Dr. Doty has made a full report of the case, and gives the proper amount of emphasis to his somewhat gratifying results, but lays due stress upon the fact that one case proves nothing, and states that the work already begun will be continued until a definite conclusion is reached. (*N. Y. Med. Record*, Vol. 56, page 289.)

The treatment of pulmonary tuberculosis by an Antituberculous Serum has received some attention during the past year.

The most extensive and energetic workers in the preliminary steps for such treatment have been Drs. E. L. Trudeau and E. R. Baldwin, of Saranac Lake, N. Y., who have published the results of their "Experimental Studies on the Preparation and Effects of Antitoxins for Tuberculosis." The introductory sentence to their report reads as follows: "The workers in this field have not been idle, though it must be conceded that few definite good results have been attained, and but little progress has as yet rewarded the patient toil expended in attempts to produce a curative or antitoxic serum for tuberculosis." Their studies embrace a period of four years' work on 4 sheep, 3 asses, 12 fowls, 18 rabbits, and 450 guinea pigs, and their results are given in a concluding summary which will be interesting to read. (*Amer. Jour. of the Med. Sciences*, Vol. CXVI, page 692, and Vol. CXVII, page 56.)

At the meeting of the British Royal Medical and Chirurgical Society, on March 28th last, Drs. C. Theodore Williams and Herbert Horrocks read a paper on "The Treatment of Pulmonary Tuberculosis by Antituberculosis Serum." Their experiments were carried out on nine patients at the Brompton (England) Hospital, using the Serum

obtained from the Jenner Institute of Preventive Medicine. The report states that "all increased in strength and vigor, and were able to return to their work, except one patient, in whose case a lighter occupation was substituted for a comparatively trying one." These results cannot be accepted as conclusive, but will undoubtedly encourage further trials. (*Brit. Med. Journal*, Vol. I for 1899, page 790.)

A case of diphtheritic conjunctivitis treated successfully with Antitoxin is reported by Dr. George Huston Bell, of New York city. (*N. Y. Med. Record*, Vol. 55, page 814.)

Another case is reported by Dr. Charles P. Pinckard, of Chicago, Ills., in which recovery followed without danger to the eye. He states in conclusion that "while diphtheritic conjunctivitis seems to be rather common in Europe, it is an exceedingly rare disease in America. There have been a large number of cases reported in Germany and France as successfully treated by antitoxin injections, but as far as the writer knows, this is the first successful case in this country." (*Journ. Amer. Med. Assoc.*, Vol. XXXII, page 1153.) Evidently Dr. Pinckard did not know of Dr. Bell's case.

The use of Antistreptococcic Serum in the treatment of small-pox has received some attention from Mr. W. J. Lindsay, of the Middlesbrough Isolation Hospital (England). He reports that he had an opportunity to treat a large number of patients suffering from every variety of variola during a small-pox epidemic. He reports on six of his cases and states the object of publishing his observations is to set forth his clinical facts, and to leave to others to make a more extended bacteriological inquiry in testing the value of this treatment. (*Brit. Med. Journ.*, Vol. I for 1899, page 1144).

Dr. V. Gilbert reported, in a communication to the Geneva Medical Society, on May 3d last, very brilliant results in the treatment of pertussis by administering An-

tidiphtheritic Serum. (*Revue médicale de la Suisse Romande*, Vol. XIX, page 373).

A report comes from the London (England) Temperance Hospital of a case of septicaemia treated with Antistreptococcic Serum in which there was evidently complete recovery. Dr. Leonard Wilde under whose care this was, remarks as follows:

"This case is interesting as belonging to a class of disease about which there has been considerable controversy as to the efficacy of serum therapy when employed as a germicide. It has not, I think, been claimed that Antistreptococcic Serum acts as an antitoxin as in the case of the Antidiphtheritic Serum, but merely that it possesses bactericidal properties which may be applied in certain cases with a rational expectation of success. Whether the patient recovered because of the administration of the serum or simply during such administration I have no desire to state, but the facts have been recorded as they occurred and those interested in the subject can form their own opinion. The difficulty of successfully applying the Antistreptococcic Serum rests on the fact established by Van de Velde that there are several races of Streptococci, none of which affords protection against the other, and until a serum has been obtained which includes the products of each race the success of the treatment will depend upon whether the organisms to be attacked are of the same race as those from which the serum injected has been derived." (*London Lancet*, Vol. I for 1899, page 373).

The treatment of leprosy with Antitoxic Serum appears to have been rather disappointing. The very striking results claimed by Dr. J. Carrasquilla, of Bogotá, United States of Columbia, S. A., evidently cannot be followed up, for the temporary benefit obtained is not lasting. Some experiments have continued more in the way of preliminary work, however, and a report by Drs. Akel and Ed. Soonetz,

of Dorpat, Russia, has followed. (*St. Petersburg Med. Wochensch.*, Vol. XXIX, page 141.)

Drs. F. Abba and G. Piccardi, of Turin, Italy, have reported in detail on a case of anthrax pustule treated with the Antianthrax Serum of Prof. Sclavo, with successful result. This case is reported to be the twenty-seventh which has been treated successfully with this Serum. (*Gaz. degli Osped. e delle Cliniche*, Vol. XX, page 360.)

Dr. W. Kolle, of Berlin, Germany, reports some statistics on the Serum treatment of rinderpest in South Africa. The mortality rate has been very high and he claims to have recoveries now amounting to some 86.1 per cent. These recoveries not only prove to be cured, but act prophylactically. He claims that satisfactory results will follow if the injections are accomplished within the first three days after the beginning of the fever. (*Berlin klinisch. Wochensch.*, Vol. XXXVI, page 520).

A pupil of Dr. Koch, Dr. Wassermann, has recently reported on the discovery of an Anti-Pneumonic Serum. Apparently little has been done in experiments in this line upon human beings, as most of the work has been accomplished on mice. Dr. Antonio Fanoni, of New York City, however, has been doing some of this work for at least two years and now publishes a "Report of Six Cases of Pneumonia Treated with Anti-Pneumonic Serum." This was read before the Italian Medical Society of the city of New York on June 22nd last. (*N. Y. Med. Journ.*, Vol. LXX, page 302).

Mr. Charles Stonham, of London, England, reported "A Case of Compound Separation of the Lower Epiphysis of both Radius and Ulna, followed by Acute Tetanus, treated with Tetanus Antitoxin and Irrigation of the Wound with Oxygen Gas without Recovery," from the Westminster Hospital. The following remarks on the case are made by Mr. Paton:

"This case appears to be worth recording, in the first place because of the infrequency of separation of the lower epiphyses of the radius and ulna, but more especially as a case in which the tetanus which supervened was treated with tetanus antitoxin, and this without any relief to the symptoms. The antitoxin treatment of tetanus is still on its trial, so that it seems advisable that as far as possible all cases, both successful and unsuccessful, should be recorded. It will, no doubt, be said by the advocates of the treatment that in such an acute case as this, in which the disease ran its course in about thirty-six hours from commencement to termination, no treatment is likely to be of any avail. On the other hand, it may be said with equal truth that the less acute the case is the more tendency there is for a spontaneous cure to result from the mere resisting power of the patient and thus a fictitious appearance of success may be given to any treatment, such as that by Antitoxin, which may have been tried, so that it may be argued with some reasonableness that the acuter the case the better test it will be of any form of treatment which professes to cut short the disease process. In the case of which the notes are given above, as far as could be seen, no relief to any of the symptoms resulted from the injections, while, on the other hand, they appeared to have no deleterious effect." (London *Lancet*, Vol. II for 1898 page 1326.)

Mr. Herbert W. Page, of London, England, in referring to Mr. Stonham's interesting case, states that it is more "in accordance with all that is known of the disease itself and of the behavior of Antitoxins in general to draw the conclusion that the Antitoxin of tetanus is more likely to succeed in warding off the disease altogether than in arresting or putting an end to it when the symptoms have developed—that really is to say when the mischief has been done." * * *

"Immunisation against hydrophobia, a very similar malady, has long been above question. I would urge the like treatment in the case of tetanus whenever there is reasonable

ground for fearing that it may arise. I cannot help thinking that the Antitoxin will then be proved of greater value than the record of cases treated by it up to this time seems to warrant." (London *Lancet*, Vol. II for 1898, page 1432.)

Anytin, the interesting new substance reported here last year, has had little attention paid to it in the current medical literature of the year. It will be remembered that its solvent properties are very great, acting on bodies usually insoluble in water. The preparations made by dissolving such substances insoluble in water in Anytin have been called Anytols. The only report of any prominence made during the year was that of Dr. Wilhelm Koelzer, of Greifswald, Prussia. He has used Meta-Cresol-Anytol in the treatment of erysipelas. He evidently obtained prompt results. (*Deut. Med. Wochensch.*, Vol. XXIV, page 677.)

Argentamin (Ethylene-Diamin-Silver Phosphate) has received about the same amount of attention during the past year as in the previous year. Genito-urinary practitioners appear to be the most prominent users, but even from them little that is new is reported. Dr. Edwin Williams, of Memphis, Tenn., appears to be the only one to publish his results, in "A Clinical Report on a New Remedy in the Treatment of Gonorrhea," in which he gives a number of cases treated with solutions of Argentamin and hydrogen dioxide half strength. The hydrogen dioxide is injected first and then followed up by the Argentamin solution in strengths varying from 1 in 3000 to 1 in 2000. He recommends that only fresh solution be used. (*Memphis Med. Monthly*, Vol. XIX, page 316.)

Argonin, the bactericide formed by mixing Silver Nitrate with a combination of Sodium and Casein, is still before the profession with some gratifying results reported.

Dr. Edward S. Peck, of New York city, has followed up pretty closely the treatment of purulent ophthalmia in infants, with both Protargol and Argonin. He read a paper on the advantages of these agents before the Section on

Pediatrics of the New York Academy of Medicine, on December 8th last, and a discussion followed. (*Pediatrics*, Vol. VII, page 129.)

Dr. Johann Jellinek, of Buda-Pesth, Hungary, has written on a new preparation of Argonin called "Argonin L"—soluble Argonin. It was previously realized that considerable difficulty is experienced with Argonin because of its insolubility and its tendency to decompose. This new article is not only soluble in cold water but may be kept in solution for several months without decomposing. Again it contains 10 per cent. of silver in place of the 4.2 per cent. of the insoluble form. Dr. Jellinek uses a 1 per cent. solution for cases of urethritis. Both anterior and posterior cases of urethritis were treated with the soluble form, proving the superiority of the newer preparation. It is to be hoped that more particulars will be forthcoming as to its mode of preparation. (*Wien. Med. Wochensch.*, Vol. 49, page 210.)

Aristol (Di-Thymol-Di-Iodide) is still an important agent as a surgical dressing, and is now mentioned simply as an article used as a matter of course in suitable cases. It may not be known generally that good results have been obtained in Italy from its topical use in quite deep seated ulcerations in persistent ozaena, in the following combination: Aristol 1 part, Castor Oil 1 part, and Collodion 8 parts.

Again Dr. Robert L. Dickinson, of Brooklyn, N. Y., has made good use of it as an antiseptic dressing for the umbilical cord. (*Amer. Jour. of Obstet. and Diseases of Women and Children*, Vol. XL, page 14.)

Aspirin is a new so-called antirheumatic agent derived from the action of acetic anhydride on salicylic acid. It appears in the form of small, colorless and tasteless crystalline needles. It is almost insoluble in cold water, sparingly soluble in slightly warm water, but readily soluble in alcohol, ether and potash solution. It is slightly acid in reaction and if an acid be added to the potash solution, the

crystals again appear. From this fact it is known to act on the intestinal tract, for it remains unchanged when passing through the stomach. Salicylic acid and sodium salicylate are known to cause irritation in the stomach, and therefore this agent is recommended, for it passes on to the alkaline fluids further down in the digestive tract. The dose recommended is from 1 gramme (15.4 grains) upwards, given three times a day combined with 4 grammes (61.7 grains) of granulated sugar dissolved in a little water.

The cases in which it has proved successful are those of acute articular rheumatism. It is best to give it in the powdered form, for it is then practically tasteless. An alcoholic solution has a very disagreeable taste.

Dr. Julius Wohlgemuth, of Berlin, Germany, has been one of the most prominent observers to test its action, after describing it in an article by himself entitled "On Aspirin (Acetylsalicylsäure)." (*Therap. Monats.*, Vol. XIII, page 276.)

Another prominent observer has been Dr. Kurt Wittbauer, of Halle, Prussian Saxony, who used it in the Deaconess Hospital of that city. (*Heilkunde*, Vol. III, page 396.) Little further is known of it as yet.

Asterol is one of the newest antiseptics offered as a wound dressing. It is described as a double salt (brown in color) of Para-Sulpho-Carbolate of Mercury and Tartrate of Ammonium. It is similar to Hydrargyrol (Para-Sulpho-Carbolate of Mercury) except that the Ammonium Tartrate in Asterol renders Asterol soluble in warm water—a property greatly to its advantage. An additional advantage in this agent is that the watery solutions remain stable.

Dr. Fr. Steinmann, of Bern, Switzerland, has made some observations upon its value when compared with corrosive sublimate. He summarizes its advantages as follows: 1. Solubility in water—the solution remaining clear; 2. Its decided bactericidal properties even in albuminous surroundings; 3. Its non-irritability; 4. Its deep penetrating

power; 5. Its efficiency in disinfecting not only the hands and the surrounding parts of the wound but the instruments used, which latter are not at all affected by it; 6. Its comparative harmlessness in treating wounds antiseptically, although its toxic properties are equal to those of the other mercuric agents. (*Berlin klin. Wochensch.*, Vol. XXXVI, page 229.)

Dr. M. Vertun, of Berlin, Germany, has also compared it with corrosive sublimate but finds that it has so little advantage over it that he does not see the need of offering another agent. (*Berlin klin. Wochensch.*, Vol. XXXVI, page 432.)

Benzin (Petroleum Ether) is alluded to here simply to put on record what is claimed to be an extremely rare fatal case of poisoning. Mr. Frederick Spurr, of Commercial-road, East, London E., England, records the case as being worthy of mention, not only on account of its extreme rarity, but "also because in the few recorded cases which I have been able to find the symptoms and pathological action of the poison have varied so considerably that any fresh information on the subject should be of interest." (*London Lancet*, Vol. I for 1899, page 1488.)

Benzosol (Benzoyl Guaiacol) has received little attention in the medical literature of the year. There has been no prominent mention of it in rheumatoid arthritis, which was the affection alluded to here in this connection last year, but Dr. Julius L. Salinger, of Philadelphia, Pa., has made use of it in chronic pulmonary tuberculosis in the Jefferson Medical College Hospital. The routine practice of the hospital had been to treat such cases with creosote, but the well-known objections to creosote were so prominent that another agent was sought for and found in Benzosol. Dr. Salinger states that he does not make any attempt to claim a specific action for this agent, but does claim that it has all the advantages of creosote without its drawbacks. He states that the only known objection, if it can be called

an objection, is that it is more expensive than creosote. The cases most benefited were those in which besides pulmonary lesions there was gastro-intestinal symptoms. The diarrhea generally noticed was usually promptly relieved by its use. A table is given with the compact outline of 24 cases. (*Ther. Gaz.*, Vol. XXIII, page 150.)

Bromoform has not gained much in popularity during the past year, especially as the poisoning cases still continue, and even are considered by some as on the increase. Its particular use, however, is in the treatment of pertussis as heretofore. Various formulas continue to be offered containing different ingredients which are supposed to lend their aid. One not mentioned before is as follows: Equal parts of Bromoform, Tincture of Aconite Root, Tincture of Drosera, Alcohol and Glycerin, given in doses of 10 to 20 drops daily, according to the age of the child.

Another is recommended by Dr. J. Bernard: Bromoform, 1 part; Tincture of Aconite Root, 1 part; Alcohol, 20 parts; Syrup of Codein, 100 parts; Syrup of Tolu, 150 parts. The dose is 10 grammes (or 2 fluidrachms) 3 times each day.

Dr. A. Marfan now suggests a formula differing from the one alluded to last year, as follows:

Bromoform	48 drops.
Almond Oil	20 grammes (about 5 drachms).
Tragacanth	2 " (about $\frac{1}{2}$ ").
Acacia	4 " (about 1 ").
Cherry Laurel Water.....	4 Cc. (about 1 fluidrachm).
Distilled Water to make up to	90 Cc. (about 3 fluidounces).

The dose recommended is 4 drops for each year of the child's life distributed throughout the 24 hours. (*Hospital of London*, Vol. XXV, page 313.)

Dr. Moritz Cohn, of Hamburg, Germany, reports having used this agent in pertussis for the past six years, with very varying results. He claims that the uncertainty in

action may be due to the fact that the peculiar bacillus attributed to this affection is not always present in cases of whooping-cough. He disapproves of the manner of giving this agent in drop form, as he has found it to be unsafe. He recommends the following formula for administering it:

Bromoform	0.5 gramme to 1.0 or 2.0 grammes.
Alcohol	5.0 grammes to 10.0 or 20.0 “
Acacia	5.0 “ to 10.0 or 20.0 “
Syrup of Orange. 20.0	“
Distilled Water.. 100.0	“

The dose given is 5 grammes (or 1 fluidrachm). He reports that the above emulsion keeps well. (*Therap. Monats.*, Vol. XIII, page 25.)

At a meeting of the Edinburgh Chemists' Assistants' and Apprentices' Association held on January 11th last, Mr. George Somerville contributed the following dispensing note on Bromoform and Creosote:

“A medical practitioner recently mentioned to the author that he had a difficulty in dispensing bromoform. There were three methods in use—(1) emulsification, which was unsatisfactory; (2) giving it in capsules or pearls, but for children this answered badly; (3) giving it in drops—this also was liable to error of overdose. After trying several plans, the idea occurred of dissolving the bromoform in glycerin. A most satisfactory formula, which has stood the test of time, was found to be the following: “Bromoform, 2.0 Cc., 90 per cent. Alcohol, 7.5 Cc., and Glycerin sufficient to make up to 30.0 Cc.” It has been tried by several practitioners, and all express satisfaction. It has the advantage of mixing well with water, and many other drugs can be added without throwing the bromoform out of solution. Flavoring agents can also be added—an important requirement in the case of children. The foregoing remarks about bromoform apply equally in the case of creosote, and

an analogous formula has been found to work satisfactorily. Glycerin is frequently prescribed along with bromoform and also with creosote in whooping-cough, phthisis and certain types of indigestion, and there can therefore be no objection to its employment in the foregoing formula." (*Pharm. Jour.*, Vol. VIII, Fourth Series, page 69.)

A few of the poisoning cases of more recent date may be mentioned for the purpose of recording.

Dr. Müller, of Munich, Bavaria, reports a case and states that there are in all twelve cases published of poisoning by this agent. (*Muench. Med. Wochensch.*, Vol. 45, page 1211.)

Dr. Schmitt, of Dieburg, Hessian Germany, reports a case. (*Muench. Med. Wochensch.*, Vol. 46, page 149.)

A correspondent of the London *Lancet* writes to that Journal (Vol. II for 1898, page 1816) of a case of poisoning which occurred at Lancaster, England. It was then stated that the report was rather meagre and fuller particulars were asked for, as it was thought to be the first (?) recorded case of Bromoform poisoning. The *Lancet* alludes to this same case in a subsequent issue of its Journal, and the correspondent gives a further report of interest in the same direction. (London *Lancet*, Vol. I for 1899, pages 119 and 189.)

Dr. J. S. Stone, of Boston, Mass., contributes a note with the following heading: "Bromoform, Carbolic Acid, and Whooping-Cough—the Dangers of Each," in which he describes a case of a child to whom he prescribed a Bromoform mixture with unfortunate results. (*Boston Med. and Surg. Jour.*, Vol. CXL, page 160.)

Camphor production in this country is still being pushed, and encouragement comes from Florida, where the statement is spread by a resident that he is fully convinced that it can be profitably produced in the southern part of the state, for he has at this time several acres planted in Camphor trees of different sizes, to which he adds a number

each year. The trees appear to be hardy and are not easily affected by extremes of heat, cold, moisture or drought. No artificial fertilization is apparently called for. He describes his trees as being in some cases almost without any trunk, and even if they do possess a trunk, it is short and the branches are quite close to the ground. The tops form in rounded symmetrical cones. His success has encouraged his neighbors to plant to some extent, and no doubt a profitable industry will soon spring up, for the seeds germinate rapidly and the trees bear seed abundantly. This gratifying news of results at home is specially interesting at this time when word has come from Japan through the United States Foreign Office announcing a Japanese Camphor monopoly.

A little more attention has been given during the past year to the treatment of pulmonary tuberculosis by the use of Camphor.

Dr. Bruno Alexander, of Nervi-Reichenhall, after repeated trials, is very strong in his recommendation of the use of subcutaneous injections of camphorated oil in this affection. If the temperature is high, he injects subcutaneously 0.1 to 0.2 Cc. ($1\frac{1}{4}$ to $3\frac{1}{2}$ minims) of camphorated oil once a day for a protracted period, even to six weeks and without intermission, after which he advises an intermission of from one to four weeks before resuming the injections. In his cases he naturally uses the camphorated oil of the German Pharmacopoeia, which contains 10 per cent. of camphor, thus that equivalent of Camphor in this country would have to be injected to make the results parallel. (*Berlin. klin. Wochens.*, Vol. XXXV, page 1062.)

Oxycamphor is the name given to a product obtained by chemically replacing one atom of hydrogen in Camphor for the radical HO. It is claimed that this product is free from the disagreeable heart action noticed when using Camphor. It has been given in doses as large as 500 milligrammes (7.7 grains), but it is found that it changes quite

rapidly, and therefore it has been recommended to make use of a 50 per cent. alcoholic solution, which has been given the name of "Oxaphor."

Dr. Richard Jacobson, of Berlin, Germany, has made use of this 50 per cent. solution in 18 cases of dyspnoea, using the following combination: Sol. Oxycamphor, 50 per cent., 1 part; Alcohol, 2 parts; Liquorice Water, 1 part, and Distilled Water sufficient to make 15 parts. The dose is 15 grammes (or $\frac{1}{2}$ fluidounce) three times daily. It was found of value in pulmonary, cardiac and renal dyspnoea. (*Berlin. klin. Wochensch.*, Vol. XXXVI, page 339.)

Dr. Alfred Ehrlich has also made some observations with this agent in dyspnoea and as a sedative. He used the following formula:

Sol. Oxycamphor. Alco-			
hol (50%)	2.00	grammes (	30.9 grains).
Alcohol	5.00	"	(77.2 ").
Syrup of Raspberry....	20.00	"	(308.6 ").
Distilled Water	175.00	"	(about 6 ounces).

The dose is 5 grammes (1 teaspoonful) two or three times each day. He treated 32 cases. All showed some good results, but the best were obtained in the dyspnoea present in pulmonary tuberculosis. (*Centralbl. für die gesammte Therapie*, Vol. XVII, page 1.)

Poisoning cases are occasionally recorded, particularly where criminal abortion is attempted. It has been discovered somewhat accidentally that large doses of sugar act well as an antidote in such cases.

Camphor has been recommended by Dr. Julian Alvarez as an antidote for carbolic acid, and has published his report of a case of carbolic acid poisoning so treated. He discovered this antidotal action by accident, for after he had learned that carbolic acid had been swallowed, he at once presumed that it had all been absorbed and simply recommended camphorated oil to be given for the sake of

its soothing action on the oesophagus and stomach, but apparently it not only accomplished the result he looked for, but the patient recovered. (*Giornale Internaz. delle Scienze Med.*, Vol. XXI, page 81.)

Camphoroxol has not been heard of during the past year in the medical literature, but the combination it represents of camphor and solution of hydrogen dioxide would seem to be of some value in the cases last reported. Therefore observers may still be at work, to report later.

Captol, the proprietary combination of tannin and chloral, has not been alluded to in the medical literature, but only through the medium of advertisements.

Chinosol, the antiseptic, disinfectant, deodorizer and bactericide, is still being observed and somewhat pushed in the treatment of pulmonary tuberculosis.

Dr. Alexander MacGregor, of Queen-street, Berkeley square, London, W. England, reports clinically on six cases and states that from the observations which he has been able to make, he is convinced that it is a valuable drug in the treatment of this affection. (London *Lancet*, Vol. II for 1899, page 90.) To a query made by a correspondent, Dr. MacGregor wrote that he did not confirm the diagnosis of his cases by bacteriological search for the tubercle bacillus. He only made such examinations on the sputum in doubtful cases.

Chloretone is the name adopted for a new hypnotic and anaesthetic known chemically as Tri-Chlor-Butyl Alcohol (Acetonchloroform). This article differs from acetone chloroform, and therefore the investigators thought best to coin this new word Chloretone to avoid confusion. The investigators who have reported on it are Drs. E. M. Houghton, of Detroit, Mich., and T. B. Aldrich, of Baltimore, Md. They report that "it is formed when caustic potash is slowly added to equal weights of Chloroform and Acetone, and may be isolated from this mixture, after the removal of any excess of Acetone and Chloroform, by distilling with

steam. Obtained in this manner, it is a white, crystalline compound, having a camphoraceous odor. When freed from water by melting, and allowed to cool, the camphoraceous odor is more pronounced and its general appearance resembles Camphor more closely. It is very soluble in chloroform, acetone, strong alcohol, ether, benzin and glacial acetic acid, sparingly soluble in cold water (1 per cent.), more soluble in boiling water. Dilute acids and alkalies are apparently without effect; concentrated sulphuric acid decomposes it."

"The main action of the drug is confined to the central nervous system, it being essentially the same as that of the other anesthetics and hypnotics of the fatty acid series, differing from most of the members of this group in not depressing the circulatory system. Chloretone, besides its central action, possesses local anesthetic properties in a marked degree, resembling cocain in many respects. Indeed, it will probably be found a useful substitute for the last-named drug, as the small amounts introduced subcutaneously to produce insensibility to pain in surgical work are entirely harmless. Experiments *seem* to warrant us in making the statement that chloretone has a selective action for the central nervous system—more chloretone having been found in the brain in several instances than in any other organ of the body."

"In general we may summarize our claims for this drug by stating that its action on the central nervous system is similar to the anesthetics and hypnotics of the fatty acid series without depressing the centers of the medulla; locally it acts like cocain, as a peripheral anesthetic. It is too early to prophesy what position chloretone will take in medicine, but the results as a hypnotic and local anesthetic are very encouraging."

"Possibly the drug will prove to be a useful general anesthetic when administered in large doses; or it may be given

before chloroform or ether and allow complete anesthesia to be produced by the use of a minimum amount of chloroform or ether. Perhaps such administration may prevent the annoying vomiting that so frequently occurs when a patient is being anesthetized. Chloretone is nearly an ideal anesthetic for use in experimental surgery, physiology, pharmacology, etc., as has been abundantly demonstrated by Abel, of Johns Hopkins, Cushny, of Ann Arbor, and our own experience in the laboratory for several years past."

"We have nearly completed an exhaustive systematic investigation of the chemical and pharmacologic properties of chloretone, which will be published in detail in the near future." (*Jour. Amer. Med. Assoc.*, Vol. XXXIII, page 777).

Chloroform decomposition in the presence of a naked flame has received some marked attention from Dr. Kenelm Winslow, of Newton, Mass., owing to the decided poisoning effects noted. It does seem very strange that after so many years' use of Chloroform to produce anaesthesia under every variety of condition that the facts pointed out by Dr. Winslow are not more generally known. Cases of unlooked-for choking effects upon not only the patient on the operating table but upon those in attendance have been repeatedly reported, but comparatively few of these cases have ever received the proper explanation of such effects. The fact has been long known and pointed out repeatedly in print for many years past that Chloroform "rapidly decomposes when its vapor comes in contact with an exposed gas light, evolving peculiar chlorine vapors which are extremely irritating to all present and may be even dangerous to the patient. Chloroform, therefore, should never be administered by gas light unless the latter be well protected by a closed glass case and furnished with abundant provision for the rapid escape from the room of all decomposition products." Therefore it appears to be quite necessary to repeat here such precautions.

A recent allusion to Chloroform as a haemostatic has been made by Dr. Spaak, of Brussels, Belgium, due to his having obtained gratifying results by the application of a mixture of 1 part Chloroform and 50 parts water. He used it to control haemorrhage after the extraction of teeth. (*Journ. de médecine de Paris*, Vol. XI, page 271.)

Cinnamon, in the treatment of influenza is strongly recommended by Dr. Joseph Carne Ross, of Manchester, Engand, in the following report of his observations:

"The newspapers give us a dismal daily death-roll from influenza. My experience during the past five years leads me to believe that no patient, if promptly and systematically treated, need be on the sick list, even after a most severe attack, for more than five or six days at the very outside. The theory on which that treatment is based limits of space preclude me from at present discussing.

"The drug I employ is cinnamon, either in a strong decoction or in tabloid form. I order half an ounce of decoction of cinnamon, or two tabloids, every half hour for two hours; then the same dose to be continued every hour till the temperature falls to normal. After the temperature has become normal the same dose to be taken four times a day for four days; the patient not to leave the house for twenty-four hours after the temperature has become normal; the treatment must be commenced within twenty-four hours from the onset of the attack of influenza.

"In February, 1892, I commenced treating influenza in the manner above described, and all the cases so treated were out and about in two or three days. It so happened that every case was seen within a few hours from the onset of the attack. In the end of 1892 and spring of 1893 I treated a second batch of cases, for the most part without any good results.

"Carefully reviewing my results, I began to perceive that they seemed to stand in some direct relation to the period of the disease at which the treatment had been commenced.

So I determined to take twenty-four hours from the onset of the disease as a time limit, and to treat no cases with cinnamon where this time limit was overpast. Since the spring of 1894 I have invariably observed this time limit and have treated a large number of cases, and in every case so treated within twenty-four hours from the onset the patient has returned to his place in society within five days from the commencement of treatment, and in no case have I been embarrassed by complications of any kind. Recently I have attended a young lady for influenza, who was treated with cinnamon, though she was rather over the time limit, and she did not go downstairs till the seventh day from the commencement of treatment, but as she is within three weeks of her first confinement I do not consider that she has done badly. In those cases where the treatment has been commenced within four or five hours from the onset of the attack I have found patients usually able to return to their duties within forty-eight hours.

"The decoction is prepared by slowly boiling a pound of cinnamon *in vacuo* with a sufficiency of water till the fluid is reduced to a pint and a quarter."

"My work during the past five years is summed up in the above bald statement. Should what I have said induce others to make a trial of my method of treating influenza, I trust they will do me the justice to follow the rules of practice that I have ventured to lay down." (*Brit. Med. Jour.*, Vol. I for 1899, page 660.)

Citrophen (Phenetidin Citrate), although very little reported upon during the past year is receiving attention from some observers.

Dr. Heidingsfeld, an Alsatian, living in Blotzheim, reports having obtained satisfactory results after his continued experience with this article in 36 cases of various affections. He found it quite efficient in rheumatism of joints and muscles, although in the tabulated series of cases which he presents, he does not include acute rheumatism in

which previous observers have reported excellent results. He claims that his cases usually required only a total of from 8 to 10 grammes (123.5 to 154.3 grains) to obtain complete results, given in doses of 5 grammes (77.2 grains). He did not obtain good results in pyrexia which is contrary to previous observers, but did obtain encouraging results in cases of neuralgia, not of organic origin, also in the severe headache of influenza and in acute tonsillitis. He finds that it is non-toxic and does not affect the heart action. (*Allgem. Med. Central-Zeitung*, Vol. 68, page 779.)

Cocaine Hydrochlorate being the soluble form of the alkaloid most largely used, is still receiving much attention, and at times in new lines.

Dr. August Bier, of Kiel, Prussia, has recently reported the results of his experiments to test the practicability of rendering considerable areas of the body anaesthetic by injections of this agent directly into the spinal cord. The lower limbs were generally selected. His experiments had relation especially to the possibility of anaesthetizing these parts when undertaking major operations. The first step was to introduce the drug by means of Quincke's lumbar puncture, so manipulating by pressure of the finger to prevent the cerebro-spinal fluid from escaping. Then the injection was made with a Pravaz syringe. He found that from 5 to 10 milligrammes (about 1-16 to 1-8 of a grain) of Cocaine Hydrochlorate produced the required anaesthesia and enabled him to perform resections on the knee-joint, ankle-joint, on the ischium and other major operations without pain—even complicated operations of the femur were painlessly accomplished. He reports that the only ill-effects noticed were severe headache, nausea and vomiting, which however only occurred with some of the patients, but they suffered thus for several days after the operation. Both Dr. Bier and his colleague, Dr. Hildebrand, were then bold enough to subject themselves to such injections, accomplishing results in from 5 to 8 minutes with a dose of 5 milli-

grammes (about 1-16 of a grain). The anaesthesia lasted for about forty-five minutes when normal sensibility gradually returned. They also noticed the unpleasant sequelae. Their detailed report is surely worth careful reading. (*Deut. Zeitschrift für Chirurg.*, Vol. 51, page 361.)

Dr. P. G. Unna, of Hamburg, Germany, continues to report good results in dermatology by the use of a powder composed of Cocaine Hydrochlorate 0.5 to 1.0 gramme (7.7 to 15.4 grains) and Magnesium Carbonate 10 grammes (154.3 grains). As an anaesthetic in cauterisations and scarifications, the mixture is dusted on and covered with moist cotton rendered aseptic and held in place for ten or fifteen minutes. He also reports on his preference for the Alkaloid Cocaine for local anaesthetizing the superficial surface of the skin when unbroken. In such symptoms as itching he uses from 1 to 2 grammes (15.4 to 30.9 grains) of the alkaloid, applied either by sponging or in the form of a dressing.

Dr. Walter P. Jenney, of Deadwood, South Dakota, in publishing some "Notes on Cocaine," states that "the therapeutic action of cocaine upon the human skin appears to have escaped the attention of investigators. Most of the standard works on the subject either omit any mention, or state that the drug is not absorbed." He goes on to explain the action of Cocaine Hydrochlorate upon the skin, and also to discuss the subject of this agent not being a simple alkaloid. (*N. Y. Med. Record*, Vol. 55, page 424.)

Upon the use of Cocaine as a means of diagnosis, Dr. Liebrecht of Hamburg, Germany, reports "Concerning the Nature of Papillary Appearances and Their Diagnostic Significance." (*Deut. Med. Wochensch.*, Vol. XXV, pages 408 and 424.)

Dr. Carl Seiler of Scranton, Pa., read a paper before the Scranton Clinical and Pathological Society, on June 2d, last on "Facial Eruptions due to Intranasal Disease," calling attention to cutaneous eruptions produced by the local application of Cocaine. (*N. Y. Med. Record*, Vol. 56, page 263.)

Local anaesthesia is claimed to be more readily accomplished by combining Cocaine Hydrochlorate in 1, 2, 3, 4 or 5 per cent. solutions with ethyl chloride. It is explained that the ethyl chloride simply acts as a vehicle for the Cocaine and removes the fats from the surface of the skin, thus allowing the Cocaine to penetrate deeper. By this plan hypodermic injections are avoided and the liability to Cocaine intoxication minimized. This plan may be carried out with the thermo-cautery. Anaesthesia is claimed to be obtained in about five or six minutes.

Creosotal (so-called Creosote Carbonate) is still found to be an efficient form in which to give Creosote, and it is being employed in the same line of cases as reported upon previously.

One of the most recent applications, however, is in the treatment of fetid breath. Dr. Bayer has obtained good results in obstinate cases where such a symptom has been evidence of a chronic affection of the nasopharynx. He injects this agent intratracheally by means of the intralaryngeal syringe, using slightly warmed Creosotal. He finds that the injection of such quantities as from 0.5 to 1.5 Cc. (8 to 25 minims) produces no irritation, and relief is usually obtained from one such injection. (*Rev. de Thérap. Médico-Chirurg.*, Vol. 65, page 847.)

Creosote (Beechwood) no longer holds the prominent position it has in past years, chiefly for the reason that Guaiacol and its combinations have quite succeeded it in most uses. However it is being still further investigated and much scientific work has been reported.

At a meeting of the Pennsylvania Pharmaceutical Association, held on Tuesday, June 13th last in Philadelphia, Mr. Lyman F. Kebler contributed an interesting article on "Wood Tar Creosote" in which he emphasized the fact that the previous general opinion that Creosote was a mixture of guaiacol and creosol in which the former ingredient was the prominent one must now be given up, for little Creosote can

be obtained, containing even as high as twenty per cent. of guaiacol. Some commercial brands do not contain any guaiacol. (*Amer. Jour. of Pharmacy*, Vol. 71, page 356.)

Recently the Christiania (Norway) Academy of Sciences awarded the gold medal of that society to Dr. Alfred Mjöen for his treatise on the composition of the different kinds of Norwegian tar. The principal point he brought out was that it can be obtained directly from sawdust, which would naturally decrease the cost very considerably. Heretofore it has been always claimed that the Beechwood was the only recognized source of the article to be used in medicine. Dr. Mjöen is a pharmacist of increasing prominence who is devoting his time to research work.

The above explanation for the gradual retirement of Creosote, although a potent one and quite large in extent, is not the only one. The hygienic treatment of pulmonary tuberculosis is increasing very rapidly, and in some parts of the world where Cod-liver Oil, Creosote and Guaiacol were formerly among the regular medicaments used, they are to be found quite wanting, and in other places only used as adjuvants. This reaction may have gone too far in the wrong direction, but the advantages of a rational hygienic treatment are so self-evident that it may be confidently expected to hold its own to a great extent.

It may be well to give here a few of the reports of those who still cling to this agent as being of some value.

Dr. Camille Savoie presented a communication to the Paris Academy of Medicine at its meeting on July 5, 1898, on the advantages of this agent in pulmonary tuberculosis. His chief point was that the best results were obtained by giving very large doses, and that they were well borne, even when given for months at a time. His experience was based upon his observations in his surgical clinic at the Hôtel Dieu. No inconvenience followed from as much as 15 grammes (about 4 drachms) a day for several months. (*Bulletin de l'Académie de Médecine*, Vol. XLI, page 691.)

Dr. L. H. Warner, of Brooklyn, N. Y., gives his experience with Creosote in pulmonary tuberculosis and recites two favorable cases. He however reinforced his Creosote treatment by Nuclein and tonics, and thus, no doubt, rather confused the claims for or against Creosote. (*Buffalo Med. Jour.*, Vol. LIV, page 690.)

Dr. Carlo Ruata, of the University of Perugia, Italy, brings forth another form of treatment after some experimentation. It consists in the graduated continuous inhalation of Alcohol, Creosote and Chloroform. He records 11 typical cases of tuberculosis "cured perfectly." In another series of 32 cases he reports 22 in which the progress of the affection was arrested so as to put them "out of danger." (*London Lancet*, Vol. II for 1899, page 917.)

A report is published by Mr. W. Devereux, surgeon to the Tewkesbury Hospital (England) giving the results in that hospital of the treatment of gangrene of the lung by means of Creosote vapor. Quite a detailed account is given of the only case on record. (*Brit. Med. Jour.*, Vol. I for 1899, page 532.)

Dr. E. Schoull, of Tunis, Africa, expresses his belief that lobar pneumonia may be successfully treated by means of Creosote clysters. His plan is to cleanse the bowel by an enema and then give 20 to 40 drops of Creosote twice a day in the form of a clyster. He claims that either the pneumococcus is absolutely destroyed or its toxicity markedly diminished. (*Bull. Général de Thérap.*, Vol. CXXXVI, page 133.)

Combinations of Creosote with Glycerin and Creosote with Alcohol and Glycerin are still used, and some success is reported in the treatment of ozaena with such.

Dr. J. M. Allen, of Liberty, Mo., has obtained some benefit from a combination of Creosote, 1-3 of a drop; Tincture of Nux Vomica, 10 drops, and Saw Palmetto, 4 grammes (60 grains), in the treatment of diabetes mellitus. (*Jour. Amer. Med. Assoc.*, Vol. XXXIII, page 1070.)

Dr. Vladimiro de Holstsin claims that Creosote gives excellent results in the treatment of chronic constipation, restoring the appetite and giving more energy to the whole system. "The effective dose is about seven or eight drops taken twice daily." (*Diet. and Hyg. Gazette*, Vol. XV, page 191.)

Drs. F. Balzer and Monsseaux have reported one case of keloid of the ear lobule which followed after removing a small tumor, which they treated by injecting 20 per cent. solution of Creosote in Olive Oil. The injections were 1 Cc. (about 16 minims) each, and different parts of the tumors were selected for each injection. (*Annal. de Dermat. et de Syphil.*, Vol. IX, page 1145.)

Dr. P. G. Unna, of Hamburg, Germany, reported at the meeting of the Aerztlicher Verein of Hamburg, on February 21st last, that his favorite treatment of lupus was with Creosote combined with salicylic acid. He claims that salicylic acid alone appears to only reduce the lupus tissue without destroying the tubercle bacilli. Therefore he recommends the following formula as being far superior to arsenic or pyrogallol in their various forms:

Salicylic Acid	2.0	grammes (30.9 grains).
Solution Antimony Chloride...	2.0	" (30.9 ").
Creosote	4.0	" (61.7 ").
Solid Extr. of Cannabis Indica	4.0	" (61.7 ").
Wool Fat	8.0	" (123.5 ").

(*Therap. Monats.*, Vol. XIII, page 282.)

Dr. A. O. Fitzgerald, of Belgaum, India, reports his clinical results in "The Treatment of Malarial Fevers by the Inunction of Creosote" in a number of cases, giving a pains-taking detail in tabular form. He concludes as follows:

"Though I regret that I have been unable to keep notes of other cases, I do not think it necessary that anything should be added to this record to prove the value of the treatment. My object is simply to bring to notice, particu-

larly in the interests of the last class of cases, which are frequently found so very difficult to treat by other means. Personally I never now answer a call to a sick child night or day without taking a small bottle of creosote with me. In this way time is saved, which perhaps could never be made up if lost. It appears to me to be an ideal treatment for malarial fevers in children, as it combines everything that is necessary, even in very severe cases; it is easily applied; it acts rapidly and continuously, and, as far as my experience goes, with certainty; and I have never seen any bad effects, even after the excessive use of the drug. I need only allude to the possibilities of treatment of the more malignant forms of malarial fevers by the external or internal administration of this drug." (*Brit. Med. Jour.*, Vol. II for 1899, page 140.)

Some suggestions have been made throughout the past year in relation to various forms for the administration of this agent which are a little out of the ordinary. They may be of interest here.

Dr. Kopp, of Lyons, France, suggests the following combination: Beechwood Creosote, 1 part; Benzoin, 1 part, and Powdered Vegetable Charcoal, 6 parts. Triturate the Creosote with the Benzoin for a few minutes, and then gradually add the charcoal. He recommends this mixture to be taken in the form of wafers. He states that it does not soil paper. (*Gaz. hebdom. de Méd. et de Chirurg.*, Vol. 46, formulas following page 396.)

A new combination, chemically known under the name of Creosote Tanno-Phosphoric-Ester, is claimed to have been found of value in all tuberculous conditions which were accompanied with diarrhea. It is reported to be a grayish, syrupy liquid and has been given the short name of "Taphosote."

A new Creosote compound now comes from France. It is claimed to be a Creosote Ether, consisting of Creosote 80 per cent. and Phosphoric Anhydride 20 per cent., in the

form of a thick, clear liquid with a slight odor and taste of Creosote. The short name of "Phosote" has been given it. As might be supposed, it is used in the same line of cases as Creosote and Guaiacol.

Dr. A. B. Briggs, of Ashaway, R. I., reports "On the Use of the Valerianates of Creosote and Guaiacol in the Treatment of Pulmonary Tuberculosis." (*N. Y. Med. Jour.*, Vol. LXIX, page 706.)

Diuretin (Sodio-Theobromine Salicylate) is still kept before the profession by repeated advertising, but so little has been recorded in the prominent medical literature of the year that either of two conclusions can probably be drawn—either that its usefulness is so well recognized that observers think their fellow practitioners know all about it, or that it has dropped out of general practice quite completely—at least out of the practice of those who make a point of publishing their results.

Dolomol Compounds are quite prominent agents before the profession at this time, especially among the dermatologists. The base Dolomol is claimed to be a mixture of Calcium and Magnesium Stearo-Palmiate and various drugs are incorporated with it mechanically to form these so-called Dolomol Compounds. Some of the drugs used are: Acetanilid, Acid Boric, Acid Carbohc, Acid Picric, Acid Pyrogallie, Acid Salicylic, Acid Tannic, Aristol, Chrysa-robin, Europhen, Guaiacol, Menthol, Resorcin, Salol and various others, in varying proportions.

Dr. Thurston G. Lusk writes to the editor of the *Journal of Cutaneous and Genito-Urinary Diseases* (Vol. XVII, page following 398), that he has found Dolomol-Acetanilid (25 per cent.) particularly useful in varicose ulcers and chancroids, and Dolomol-Resorcin (10 per cent.) in seborrhoeal eczema of the body and face, in seborrhoea oleosa and in acne. In all, he has used it in 100 cases of various skin diseases.

These compounds are applied chiefly in the form of dust-

ing powders, and the name "Pulvola" has been given to the plain Dolomol powder, as a short name for general use.

Dormiol is the short name given to the combination of chloral hydrate and amylene hydrate, and previously known under the name of Amylene-Chloral. As would naturally be supposed its chief use is as a hypnotic and is claimed to be quite a harmless agent. It is offered in the form of a colorless, oily liquid with an odor resembling camphor and with that peculiar taste. It is insoluble in cold water but soluble in alcohol, ether, acetone and fatty oils.

Dr. Meltzer, of Colditz, Saxony, has carried on a series of experiments with it on animals; also in insane cases of human beings. The dose varied from 500 milligrammes to 2 grammes (7.7 to 30.9 grains). The largest dose given was 3 grammes (46.3 grains) but this was only necessary in specially excitable cases. It does not possess the cumulative action of chloral, and is therefore claimed to be superior in those cases where a hypnotic needs to be continued and yet avoid a habit. (*Deut. Med. Wochensch.*, Vol. XXV, Therap. Beilage, page 29.)

Egol is the name given to a derivative of the phenols, producing a class of new antiseptics. It is applied to the product obtained by the action of nitric acid upon the para-sulphonic derivatives of phenols and then combining with mercury. The action of nitric acid produces ortho-nitro-para-sulphonic acid. This combines with one atom of mercury for each two atoms of phenol present.

Prof. E. Gautrelet presented his results with this new class of antiseptics before the French Academy of Science on July 10th last, stating that he had obtained an ortho-nitro-phenol para-sulphonate of mercury, an ortho-nitro-cresol para-sulphonate of mercury and an ortho-nitro-thymol para-sulphonate of mercury. The names of these are abbreviated to read as follows: Phen-egol, cres-egol, thym-egol. He claims these combinations are very stable and are offered in the form of a reddish-brown powder. They are

readily soluble in water but insoluble in strong alcohol. The aqueous solutions are odorless and tasteless, are neither caustic nor irritant, do not coagulate albumin, are not decomposed by organic matter, but do precipitate toxins. They prove to be non-toxic in doses amounting to 2 grammes (30.9 grains) per kilogramme of body weight when injected hypodermically. When taken internally they act as emetics. They prove to be powerful bactericides, for they arrest all development in bacterial cultures when used in the proportion of 4 to 1,000. (*Pharm. Jour.*, Vol. IX, Fourth Series, page 235.)

Endomentol is the manufactured name (the etymological basis for which is difficult to understand) to describe in one word Nicotine Salicylate. It is little heard of except through Prof. Volters, who has described it as being a specific in the treatment of scabies. He recommends it made up into a 0.1 per cent. ointment with vaselin or lanolin. It is described as being in the form of colorless, transparent crystals, having a slight empyreumatic odor, soluble in water and most other solvents.

Erythrol Tetranitrate (Tetranitrin) has now been before the profession for some time, but it may be well to recall here that it is formed by the action of fuming nitric acid upon a derivative of a certain product found in some varieties of lichens under particular conditions. It is well known to be explosive and is quite costly. Its use extends back for several years in such affections as nitro-glycerin would be prescribed.

It has come into special prominence recently on account of some unfortunate results both in this country and abroad. In England they had a distressing explosive accident which has exercised the profession and public considerably.

It continues to be of special value in angina pectoris.

Dr. Boughton Addy, of Birkdale, Southport, England, reports that he finds it superior to Glonoin. (*Brit. Med. Jour.*, Vol. I for 1899, page 1088.)

Ethyl Bromide (Hydrobromic Ether) continues to be the favored anaesthetic with many surgeons for short operations.

Dr. Frank C. Hammond who last year made an earnest plea for its more general use, has again emphasized its value in gynecology and obstetrics and read a paper before the Philadelphia Obstetrical Society on January 5th last pointing out how much superior this anaesthetic is over ether and chloroform when making a hurried examination, and how the after-effects are almost entirely avoided. He makes use of a folded towel upon which 4 grammes (about 1 drachm) of the Bromide are poured. He holds it closely over the nose and mouth and keeps renewing the anaesthetic every few seconds until narcosis is complete. He advises limiting its use to the second stage of labor except in primipara, when the pains of the first stage become excruciating. In obstetric operations, where prolonged anaesthesia is required, he prefers chloroform and next ether. (*Phila. Med. Jour.*, Vol. 3, page 126.)

Dr. E. Larisch, of Breslau, Prussia, has made use of this anaesthetic in more than 120 cases and regards it as quite an ideal anaesthetic. He claims that the unfortunate results which have occurred in years past and discouraged its more general use, are due to administering either too much or giving it in a too concentrated form. Of course he admits also that lack of care in the purity of the preparation had naturally its bad effect. The exciting stage was observed in only eight per cent. of his cases and all these were adults—no such effect was produced in children. Vomiting was noticed in less than two per cent. of his cases. He found it particularly effective in cardiac cases. He repeats what has been so frequently noticed with this anaesthetic—that the reflexes are never entirely abolished during its administration. He therefore reiterates the caution that care must be taken in observing how deeply the patient is under its influence. He readily reduces fractures

under this anaesthetic, for the muscles are so relaxed that manipulation is accomplished most satisfactorily. (*Centralbl. für Chirurg.*, Vol. 26, page 446.)

Dr. J. Elmond Kempter, of Saint Thomas, Pa., joins with most other advocates of this anaesthetic in extolling its use in minor surgery. (*Maryland Med. Jour.*, Vol. XLII, page 133.)

Accounts of fatal cases continue to appear, but possibly greater care and purity in the anaesthetic have considerably reduced the number during the past year, as far as reports go. One of the most recent fatal cases occurred in the office of a dentist, but a regular physician administered the anaesthetic and apparently all the proper precautions were taken.

Ethyl Chloride (Muriatic Ether) as an anaesthetic is comparatively little heard of in this country. Abroad however they still make use of it, and occasionally reports appear.

Dr. J. Wiesner reports his results in 400 cases in Prof. von Hacker's Clinic at Innsbruck, Austria. He enumerates its advantages and states that he has found it not only most suitable in short operations, which has long been known, but in operations lasting as long as fifty minutes. He has recognized also what others have spoken of, that the pupil and corneal reflexes generally persist, and questions are even answered by the patient without necessarily remembering afterwards anything about the conversation. He alludes to two of the disadvantages as being: failure to produce complete muscular relaxation, and that of having the patient wake up occasionally in the middle of a long operation. He speaks of it highly as a suitable anaesthetic on the battle field in the first aid to the wounded. (*Wien. Med. Wochens.*, Vol. 49, page 1334.)

Dr. Bloch, of Copenhagen, Denmark, read a paper on its use as an aid in major operations, before the Northern Surgical Congress held at Stockholm, Sweden, in August last. He made use of it as a local anaesthetic in conjunction with

chloroform inhalation. He aims to use a very small quantity of chloroform for what he called the "psychic" pain only. Then when the patient becomes quiet he only uses Ethyl Chloride locally, claiming that the skin is the only sensitive part of the body, and that the other tissues are almost absolutely without sensation. He states that vomiting is not entirely avoided by this method of anaesthetizing, but it is greatly reduced. (*Phila. Med. Jour.*, Vol. 4, page 464.)

Eucaïne (Benzoyl-Vinyl-Di-Aceton-Alkamin) is still advocated as a local anaesthetic by an increasing number of surgeons.

Mr. Ernest A. T. Steele, of Southend-on-Sea, England, writes to the editor of the London *Lancet* stating that he has used it locally pretty freely during the last six months with very satisfactory results. He has removed lipomata and other like tumors, and has ligatured the internal saphena vein in four cases. As to the dose, he states he has never used less than 1.3 Cc. (20 minims) of a 5 per cent. solution, but has gone as high as 7.4 Cc. (120 minims). "In none of my cases have there been any signs of an overdose or any unpleasant result. The wounds will heal if due aseptic precautions are observed as well as if a general anaesthetic were used. I think eucaïne decidedly preferable to cocaine as a local anaesthetic and now always use it for this purpose." (*London Lancet*, Vol. II for 1899, page 318.)

Mr. Gerald Dalton, of London, England, claims that this anaesthetic "is best used hypodermically with a rather large syringe." He uses a 1 per cent. normal saline solution of Eucaïne after such small operations as opening buboes, etc. "For mucous passages—urethra, etc.—or for curetting after opening buboes, etc., a 5 per cent. solution should be kept in contact with the tissues for five minutes or more (with 3 per cent. cocaine better results will be obtained in the urethra). The eucaïne solution may be ster-

ilized by boiling. It causes a good deal of local hyperaemia and swelling." (London *Lancet*, Vol. II for 1899, page 318.)

Mr. George G. Hamilton, of Liverpool, England, Assistant Surgeon to the Royal Infirmary, contributes an article on Eucaïne-B as a local anaesthetic. After trying the various local anaesthetics he finds this agent by far the most satisfactory. He describes his method of administration and appends notes of ten of his cases. (London *Lancet*, Vol. II for 1899, page 552.)

Dr. Bayer has reported his results in its application to operations upon the esophagus and the rectum. He uses a 3 per cent. solution effectively before passing the esophageal tube. He obtained very gratifying results in cases of carcinoma where the patients found great difficulty in swallowing even fluids by means of a syringe, but after an application of this solution, solid food was readily swallowed. He states that the patients readily learned how to make such an application for themselves, and there was practically no toxic effects. In applying it to the rectum the solution is introduced on a piece of cotton, and it so quickly and effectively anaesthetizes the part that instruments may be promptly introduced for dilating without any pain. (*Therap. Monats.*, Vol. XII, page 179.)

Dr. A. H. Peck, of Chicago, Ill., presented a paper to the Section on Stomatology at the meeting of the American Medical Association held in Columbus, Ohio, in June last on the "Relative Toxicity of Cocain and Eucaïn." His experiments led him to conclude as follows:

"1. The action of cocain is inconstant; one never knows whether the symptoms occasioned by like quantities of the drug, in animals or individuals, under like circumstances, will be similar or dissimilar.

"2. The action of eucaïn is constant. The symptoms occasioned by the use of like quantities in animals under like circumstances, and so far as my experiments have gone, in different individuals also, are the same.

"3. The first action of cocain on the heart is that of a depressant, and on the respiration it is that of a mild stimulant, the after-effects being, on the heart, that of a decided stimulant, and on the respiration, that of a decided depressant.

"4. The first action of eucaïn on both the heart and respiration is that of a stimulant, the after-effects being that of a decided depressant.

"5. Cocain causes death in animals by paralyzing the muscles of the respiratory apparatus, the heart's action continuing in a feeble way for a brief period after breathing ceases.

"6. Eucaïn causes death in animals by paralyzing the muscles of the heart and of the respiratory apparatus, they ceasing to operate simultaneously.

"7. Eucaïn in toxic doses nearly always causes nausea, and occasionally vomiting.

"8. Cocain is much less nauseating and scarcely ever causes vomiting.

"9. Eucaïn is decidedly a diuretic, causing renal discharge in a majority of instances in which a toxic dose is used.

"10. Cocain is not a diuretic to any appreciable extent, renal discharge having occurred in only one instance in connection with all my experiments.

"11. The pupils of the eyes, in nearly all cases of cocain poisoning, do not respond to light and are more or less bulging from their sockets.

"12. The pupils of the eyes in most cases of eucaïn poisoning do respond feebly to light, and rarely ever bulge from their sockets.

"13. The action of toxic doses of eucaïn is more like that of a paralyzing, tetanoiding, convulsion-producing agent than it is like an anesthetizing one, the plantar and cremasteric reflexes nearly always responding.

"14. Toxic doses of cocain cause general anesthesia in

connection with the other symptoms in the majority of cases.

"15. True tetanus, of all striped muscles of the limbs, and Cheyne-Stokes' breathing nearly always occur with the use of cocain, but seldom does either occur when eucain is used.

"16. Cocain is at least three times more toxic than beta eucain, and alpha eucain is as toxic as cocain.

"17. Boiling does not destroy the efficacy of cocain, but it does modify it, and boiling in no degree lessens the efficacy of eucain.

"The above deductions have been made only after many experiments in connection with each individual point. I have observed many interesting features in connection with the relative worth of these drugs as local anesthetics, but this paper is not to treat of this phase of the work. There is much experimental work yet to be done in this connection, the results of which I shall be pleased to present at some future meeting."—(*Jour. Amer. Med. Assoc.*, Vol. XXXIII, page 643.)

Eucasin (the new food compound similar to Nutrose) has not been commented upon during the past year. Undoubtedly the unusual number of such compounds appearing during the past year has had some influence in retiring a few of those which have been considered in the past.

Euchinin (Euquinine)—the compound formed by the reaction between Ethyl Chloro-Carbonate and Quinine—has not been much heard of during the past year. What little has been reported, however, comes from its use in pertussis.

Dr. Cassel, of Berlin, Germany, reports very gratifying results in certain cases of pertussis. He finds that its best effect is obtained in cases where there is no fever or other complications, for it has little force in those having either a fever or a capillary bronchitis. His results are carefully tabulated and give evidence of being closely observed. (*Therap. Monats.*, Vol. XIII, page 190.)

Eudesmol is the name given to a crystalline camphor obtained from eucalyptus oil. Two years ago Mr. H. G. Smith and Mr. R. T. Baker isolated this product, and recently Mr. Smith read a paper upon it before the Royal Society of New South Wales. It proved to be an isomeric body with camphor, but chemically it is shown to have its oxygen atom combined in a different way.

No clinical reports are yet found as to its use. It is simply interesting at this time as being closely allied to eucalyptol and may have appropriate uses.

Eudoxin (Bismuth salt of Nosophen) continues to be used and preferred by a few as a gastro-intestinal disinfectant. It still finds advocates in the treatment of typhoid fever and in ailments in which gastro-intestinal complications enter.

Dr. Gustavus M. Blech, of Chicago, Ill., writes on its use in paediatric practice. His observations cover a period of almost three years, with sixty-three cases. (*N. Y. Med. Jour.*, Vol. LXX, page 51.)

Eugenol (Eugenic Acid)—one of the oxidation products of oil of cloves—is a colorless oily liquid which has been used for some years in the treatment of eczema and as a rather weak anaesthetic. Its chief use however has been among the dentists as a powerful antiseptic and antiputrescent. It has recently been recommended in combination with zinc oxide for a dental filling, being quite equal to any of the best cements known.

Eugol is the short name given to a new antiseptic mixture offered by an English manufacturing firm. It is claimed to be a colorless solution containing B-Naphthol, Extract of Hamamelis, Eucalyptol, Salol, Menthol, Boric Acid and a small per cent. of Formaldehyde. Its odor is that of wintergreen. It is claimed that the proportions of each ingredient are so small that no fear of toxic effects may be looked for, and its efficiency as an antiseptic, germicide and deodorant should be appreciated. It is recommended as a throat

spray and mouth wash and may be incorporated in a tooth powder. As a tooth powder it has proved to be an effective antiseptic and stimulant with slight astringent properties, keeping the teeth and gums in a firm, healthy condition. (*Pharm. Jour.*, Vol. VII, Fourth Series, page 562c.)

Eumenol is the name given to the Extract of Tang-kui Root—a plant which has been used in China apparently for many centuries past as a specific in menstrual difficulties. Evidently the German investigators have taken it up quite recently, and having prepared this extract from the imported root, have found that they could verify the results obtained by the Chinese physicians.

Dr. Friedrich Hirth, of Munich, Bavaria, was apparently the first to obtain the product in this country, and he writes of his experience in an article entitled "A Chinese Emmenagogue for Amenorrhea and Dysmenorrhoea (*Extractum Radicis Tang-Kui*)." (*Muench. Med. Wochensch.*, Vol. 46, page 769.)

Dr. Arthur Müller, of the same locality, makes his report of trials on eighteen patients in his own practice. It was found effectual in quite all cases of inflammatory troubles in the genital organs, hastening a retarded menstruation. It proved to be non-toxic and was given in doses of 5 grammes (a teaspoonful) three times a day. His experiments on animals proved that it was not an abortefacient. (*Muench. Med. Wochensch.*, Vol. 46, page 796.)

Eunol is the short name applied to the combination of alpha- or beta-naphthol and eucalyptol. The first is known as Alpha-Eunol and is obtained by stirring and gently heating equal parts of alpha-naphthol and eucalyptol until the naphthol is dissolved. On cooling the product congeals in a crystalline mass, insoluble in water, but readily soluble in alcohol, ether, chloroform, olive oil and hot glycerin—separating out after cooling in the form of fine needles. Beta-Eunol is obtained by heating together equal parts of beta-naphthol and eucalyptol as in the previous

case. This on cooling, however, forms a homogeneous crystalline pulp, and when treated with hot water melts and yields an oil which, after congealing, assumes a beautiful crystalline form. Its solubility is the same as the first product. These two compounds are recommended in the treatment of wounds and ulcers having fetid discharges. Nothing clinically is yet reported concerning them.

Euphthalmin is the Hydrochlorate of a Mendelic Acid derivative of Methyl-Vinyl-Di-Aceton-Alkamin which bears the same relation to Eucaine that Homatropin does to Tropicocaine. This new mydriatic which was alluded to here last year is still before the profession as a substitute for both atropin and homatropin in ophthalmological practice.

Dr. A. Darier, of Paris, France, reports that after his repeated use covering quite a period of time, he has yet to observe any of the unpleasant symptoms often met with after the use of the other well-known agents. He makes use of one or two drops of a 5 per cent. solution. The only complaint he hears from the patient is that of a slight dimness which is only mentioned as an inconvenience. The eye rapidly returns to its normal state. He has found good use for it in doubtful cases where atropin might give disagreeable effects. The dilatation of the pupil is very rapid, and the power of accommodation is unaffected.

Professors Vossius, Treutel, Schneider and Winselmann also report on its beneficial effects. (*La Clinique Ophthalmol.*, Vol. 5, page 77.)

Dr. Grandclément makes use of a solution of 250 milligrammes (4 grains) of Euphthalmin in 10 grammes (154.3 grains) of distilled water to dilate the pupil. He uses only a few drops and obtains complete dilation at the end of ten to twelve minutes, while the accommodation is only disturbed for about an hour afterwards. (*Lyon Médical*, Vol. XCII, page 456.)

Dr. Edward Jackson, of Denver, Colo., makes good use

of it in combination with cocaine to produce mydriasis. (*The Ophthalmic Record*, Vol. VIII, page 343.)

Dr. James Hinshelwood, of Glasgow, Scotland, read a paper before the Section of Ophthalmology of the British Medical Association at its annual meeting at Portsmouth in August last on the use of this agent. He concludes as follows:

"We are yet in search of the ideal mydriatic, such as would dilate the pupil rapidly and with certainty to its maximum; would have no effect whatever upon the accommodation; would allow the pupil to return rapidly to its normal condition, and would have no other effect upon the eye. Euphthalmin, although it does not completely fulfil all these conditions, yet approximates to them more closely than any other mydriatic hitherto used in ophthalmic practice, and will therefore prove a very valuable addition to the *Pharmacopœia* of the ophthalmologist." (*Brit. Med. Jour.*, Vol. II for 1899, page 774.)

Dr. Voscressensky, a Russian physician has carried on a series of confirmatory experiments with this agent as a mydriatic and reports his results. (*Rev. de Thérap. Méd. Chirurg.*, Vol. 66, page 421.)

Euophen (Iso-Butyl-Ortho-Cresol Iodide) has now become somewhat established in the profession. As a dressing for wounds it is much preferred to iodoform by an increasing number of observers, for apparently eczema never follows its use. In wounds of most kinds, and in ulcers, burns, abscesses, chilblains and the like, healing rapidly occurs. In the form of a mixture with powdered boric acid, it makes an effective dusting powder. A 5 per cent. solution in olive oil works admirably in skin affections. Other observers combine it with olive oil, lanolin and vaselin in varying proportions, making a serviceable ointment.

Dr. Lawrence F. Flick, of Philadelphia, Pa., under the head of "The Treatment of Tuberculosis," makes use of this compound with oils of rose, anise and olives in the

form of an ointment which he applies to the armpits and inside of the thighs once or twice a day. He has used this form of treatment for a number of years and is convinced of its value. (*The Penn. Med. Jour.*, Vol. III, page 250.)

Dr. G. Howard Thompson, of St. Louis, Mo., much prefers this agent to iodoform in gynecological practice. (*Amer. Jour. of Surg. and Gyn.*, Vol. XIII, page 50.)

Exalgin (Methyl-Acetanilid)—the angalesic—has not received as much comment this year as in the year previous, but it is still widely used. There are a few after-effects which are occasionally observed. One observer reports a deep rash which lasted for six hours after prescribing 500 milligrammes (7.7 grains) of this agent. Four days after, another dose of 250 milligrammes (about 3.8 grains) produced the same symptom. The French observer, Dr. Schull, has found that better results are obtained by giving it with other drugs. As an analgesic, he recommends combining with phenacetin and antipyrin. As an antipyretic, with phenacetin and quinine sulphate.

A report comes from the (British) Government Civil Hospital at Hong Kong, China, of a case of Exalgin poisoning, in which recovery resulted after a very large dose. This was reported by Mr. J. Bell and is worth repeating here for the reason that poisoning effects from this agent are so uncommon.

"A Chinese male adult was taken to the Government Civil Hospital, Hong-Kong, on July 31st at 11 a. m. by his friends, who stated that he had taken some medicine out of a tin purchased in the town and this tin they produced. It was the usual one-ounce tin stamped with the words "Exalgine" and "Merck" The patient was quite unconscious, intensely livid, with pin-point pupils and a full bounding pulse. His temperature was 100.8° F. He had vomited once. He was given 30 grains of salicylic acid by the nasal tube and one-fiftieth of a grain of atropia hypodermically and was put to bed. He remained in much the

same condition, so two hours later he was given one-hundredth of a grain of atropia with small quantities of milk and strong coffee. The urine was examined and contained one-fifteenth albumin. During the night he again had one-hundredth of a grain of atropia. Next morning he was out of danger, though his color and pupils were not quite normal, but the urine was now free from albumin. He was somewhat weak for several days and his temperature varied between normal and 100.8° , though this might have been due to the primary syphilis from which he was found to be suffering. He apparently purchased and took the medicine to open his bowels, though it was found impossible to ascertain why and where he bought it.

Remarks by Mr. Bell.—This case is deemed worthy of recording, as poisoning by this drug is uncommon. The similarity between its effects and those due to opium are noteworthy, and fortunately the similarity extends to the treatment, if it is considered that treatment was of avail. There does not seem to be any note in the text-books as to whether albumin is present in the urine in opium poisoning, and though poisoning by this latter drug is common here, no note has so far been made as to its presence, though this omission will in future be remedied. Mr. Browne (the Government analyst) kindly confirmed the fact of the drug in question being exalgine and informed me that the patient must have taken 150 grains, judging from the amount missing from the box and from the patient's statement that he only took one dose. The hints as to treatment were found in "Martindale's Extra Pharmacopœia." (London *Lancet*, Vol. II for 1899, page 890.)

Filmogen (Pyroxylin dissolved in Acetone and a small portion of Castor Oil added) has been little heard of in the current medical literature of the year. However, Dr. Pietro Ballico, an interne in Vienna, Austria, publishes an enumeration of its suggested uses in a 10 per cent. solution. (*Gaz. degli Osped. e delle Cliniche*, Vol. XX, page 15.)

Formaldehyde—the well-known antiseptic, disinfectant, deodorizer and germicide—needs no mention to medical or pharmaceutical observers at this time. Hardly a journal can be picked up now-a-days which has not some mention of this very effective and widespread agent. It will therefore only be of interest and profit in such comments as these to allude to the more prominent points brought out throughout the year.

Last year the series of experiments carried on by the Chicago Health Department were alluded to here. These experiments have been continued, and the following extract from the report is of interest:

"An unusually low temperature during November afforded opportunity for demonstrating the sufficiency of the margin of safety—both as to volume of gas evolved and period of exposure—in the Department method of disinfection by formalin-sprinkled sheets. Special tests were made during the coldest periods—week ended 19th, mean temperature 39°, lowest 30°, and week ended 26th, mean temperature 29°, lowest 2°—in unheated rooms where the temperature was below the freezing point. It was found that evaporation was so far retarded that the sheets were not entirely dry at the end of five hours' exposure; but streak agar-inoculations of diphtheria, typhoid and coli communis bacilli in inclined tubes were sterilized to the depth of 1½ inches in this period of exposure. Beneath this point there was growth in all cases after 72 hours' incubation. Growth of similar inoculations in the shallower culture-boxes, furnished for diphtheria-diagnosis, was entirely inhibited. For practical surface-disinfection the formalin-sheet process seems to be sufficiently effective." (*Phila. Med. Jour.*, Vol. 2, page 1384.)

A very interesting and extended investigation has been going on for some time in the Hygienic Laboratory of the University of Michigan, in which some 30 experiments have been undertaken in relation to the "Action of Formaldehyde

on Enzymes and on Certain Proteids" by Mr. C. L. Bliss and Dr. F. G. Novy, of Ann Arbor, Mich. The following general conclusions were drawn from their work: "Fibrin is altered by Formaldehyde and is then less easily digested by pepsin and by trypsin. Papain is apparently unable to digest fibrin even when this is exposed to very weak Formaldehyde (1:1000) for a very short time.

The casein of milk, on contact with Formaldehyde, undergoes rapid alteration and is as a result not coagulated by rennet, or but very slowly. Such altered casein, like similar fibrin, is not readily digested by the proteolytic ferments. The longer the Formaldehyde acts on casein and on fibrin the more marked is the result.

Pepsin is not affected by a 1 per cent. solution of Formaldehyde, even when the mixture has stood for four weeks. Even a 5 per cent. solution of Formaldehyde acting for three weeks has no effect on pepsin. Contrary results obtained by others are due to an alteration of the fibrin by the Formaldehyde. A putrid solution of pepsin in distilled water one month old digests fibrin as readily as a fresh solution.

Rennet is not affected even by a 4 per cent. solution of Formaldehyde acting for several weeks. The absence of coagulation at times is due to the action of Formaldehyde on the casein of the milk and not on the rennet ferment.

Papain is very quickly altered by Formaldehyde, even in very dilute solution. Moreover, it is unable to digest fibrin that has been exposed to the action of a very dilute solution of Formaldehyde for a short time.

Trypsin is altered by Formaldehyde to such an extent that digestion of fibrin will not take place, or but very slowly. The extent to which trypsin is affected by Formaldehyde depends largely upon the amount of organic matter present, as well as on the amount of ferment in the solution" (*Jour. of Exper. Med.*, Vol. Fourth, No. 1, page 47).

Drs. F. G. Novy and H. H. Waite, it will be remembered, carried on some careful experiments on the disinfection of

rooms reported last year before the Michigan State Board of Health.

At the annual meeting of the New York State Medical Society held in Albany in January last, Dr. William H. Park, of New York city, read a paper on "The Use of Formaldehyde Gas as a Disinfectant for Dwellings, Vehicles and Household Goods." He draws five conclusions. His fifth conclusion bears repeating here:

"Advantages of Formaldehyd Gas over Sulphur Dioxid for the Disinfection of Dwellings.—Formaldehyd gas is superior to sulphur dioxid as a disinfectant for dwellings, first, because it is more effective in its action; second, because it is less injurious in its effects on household goods; third, because, when necessary, it can easily be supplied from a generator placed outside of the room and watched by an attendant, thus avoiding, in some cases, danger of fire. Apart from the cost of the apparatus and the greater time involved formaldehyd gas generated from commercial formalin is not much more expensive than sulphur dioxid, viz., 20 cents to \$1 per 1,000 cubic feet against 10 cents with sulphur.

"Formaldehyd gas is the best disinfectant at present known for the surface disinfection of infected dwellings. For heavy goods it is far inferior in penetrative power to steam and dry heat at 230° F., but for the disinfection of fine wearing apparel, furs, leather, upholstery, books, and the like, which are injured by great heat, it is, when properly employed, better adapted than any other disinfectant now known." (*Med. News*, Vol. LXXIV, page 579.)

Dr. Czaplewski, of Königsberg, Prussia, has written an article on "The Disinfection of Dwellings with Formaldehyde" in which he disapproves of all the apparatus known to him for generating this gas, and offers one of his own based on the principle of spraying. (*Muench. Med. Wochensch.*, Vol. 45, page 1306.)

Dr. Schumburg, of Berlin, Germany, has written an arti-

cle on the "Technique of Formaldehyde-Disinfection" which will be of interest to those following up this line. (*Deut. Med. Wochensch.*, Vol. XXIV, page 834.)

Dr. Arthur Schlossmann, of Dresden, Prussia, is still a prominent observer with this form of disinfection. His results and conclusions were alluded to here a year ago, and he apparently not only confirms them but strengthens his belief in the efficiency of Formaldehyde, glycerin and steam in the following combination: Formaldehyde 30 parts, water 60 parts and glycerin 10 parts—the so-called "Glycoformalin." (*Muench. Med. Wochensch.*, Vol. XLV, page 1640.)

Drs. M. Elsner and Spiering, of Berlin, Germany, have carried on "Experiments with some Apparatus for Formalin-Disinfection" in which, after trying various forms of apparatus, have concluded that the one using Glycoformalin is to be preferred. The 10 per cent. of glycerin is added to prevent the Formalin from changing. They also believe that the advantage in using Glycoformalin is that steam may be employed and is of value rather than a detriment when disinfecting large articles, as beds and the like. They feel called upon, however, to point out disadvantages, two of which are: the sticky condition many articles are found in, due to the coating of glycerin, and the persistency of the odor. (*Deut. Med. Wochensch.*, Vol. XXIV, page 728.)

Dr. W. H. Symons, of Bath, England, reports his results in "The Disinfection of Books and other Articles Injured by Steam" in which he claims that although Formaldehyde seems to give full promise for disinfecting purposes, and does prove to do such effective work in laboratory experiments, his experience leads him to think that its action is rather superficial and variable when used on the large scale and by the ordinary means. His plan is to place articles to be disinfected in a special steam disinfector first when the Formaldehyde vapor is introduced under conditions which draw it into the numerous parts by the partial vacuum produced. His description will be of value to those

interested in following up this subject. (*Brit. Med. Jour.*, Vol. II for 1899, page 588.)

Dr. F. Montizambert, of Ottawa, Canada, reported his experience in Formaldehyde disinfection before the Canadian Medical Association at its meeting held in Toronto in August last. It had relation to an outbreak of smallpox on the S. S. "Lake Huron" in the river St. Lawrence below Quebec. He concludes as follows:

"I am aware that this disinfectant, formaldehyd, has been employed for the purification of vessels; notably some of the United States transports after recent service at Cuba. But I have not seen any instance recorded of its use on so large a scale in the face of actual infection with smallpox. Nor do I know of its results being put to so crucial a test as upon this occasion.

"In my opinion the use of sulphur dioxid driven in from the sulphur furnace under the strong pressure of the exhaust fan must remain our chief reliance for large apartments, such as holds and steerages. But this instance of the successful employment of formaldehyd as an alternative is not without its value. I do not forget how careful we have to be not to hastily draw conclusions from any one case or occurrence, still it is only by the noting of single cases that cumulative evidence can be obtained, and I have, therefore, thought this test of formaldehyd disinfection on a somewhat extensive scale to be of sufficient interest for me to bring it before this Association." (*Phila. Monthly Med. Jour.*, Vol. I, page 558.)

The subject of sterilization of instruments by means of this agent has been investigated by Dr. H. O. Reik, of Baltimore, Md., who has continued his work as alluded to here last year. He makes the following statement:

"In view of our experience I am inclined to emphasize our former conclusions, which were as follows: (1) A lamp will burn in any absolutely closed chamber long enough to generate more than sufficient formaldehyd for its disinfection.

tion. (2) In a chamber of 1 cubic foot space 5 grains of paraform will in fifteen minutes accomplish disinfection. (3) The expense of such disinfection, including the cost of paraform and alcohol, will not exceed 1 cent, and the labor involved is almost nothing. (4) For the disinfection of small instruments, such as those used by ophthalmologists, laryngologists, and dentists, it is by far the most convenient and speedy method. (5) This method carries out probably better than any other designed for the work the principles of disinfection,—the absolutely certain destruction of all pathogenic organisms, in the shortest possible time, at the least expense, and with a minimum of injury to the object of disinfection.” (*Phila. Med. Jour.*, Vol. 3, page 287.)

Dr. Johannes Hahn, of Mayence, Germany, has obtained gratifying results in the treatment of tuberculous joints by injections of a mixture of 1 to 5 per cent. of Formalin in glycerin. He first aspirates to draw out a portion of the pus. Then he washes out the cavity with a boric acid solution; after which he injects about one-half as much of this Formalin mixture as the pus removed. A second injection may be found to be of advantage. He much prefers this mixture to the previously used one of iodoform and glycerin. (*Centralbl. für Chirurg.*, Vol. 26, page 689.)

Mr. J. Lardner Green, of Salisbury, England, read a paper at the annual meeting of the Section on Medicine of the British Medical Association held at Portsmouth in August last, on the value of a 40 per cent. aqueous solution of Formaldehyde in the treatment of pulmonary tuberculosis. He prefers to use it in the form of a spray rather than by simple inhalation. A discussion on the subject followed. (*London Lancet*, Vol. II for 1899, page 521.)

Dr. Howard S. Olliphant, of New Orleans, La., reports results of his experiments in the use of this agent in the treatment of pertussis, in which his results were so gratifying that he felt called upon to publish his report. He states that he looks upon “pertussis as simply an infection

of the fauces—a place perfectly accessible to disinfection, and therefore curable in a few days.” * * * “Out of twenty cases treated with this remedy not one failed to be cured in less than eight days. I have seen cases in consultation with a *confrère* who was much pleased with the treatment, and pronounced it a specific. In conclusion, I would warn against too strong a solution being used in cases of young and debilitated children.” (*N. Y. Med. Jour.*, Vol. LXIX, page 306.)

Dr. Adolph Bronner, of Bradford, England, reported his observations on “The Local Use of Formalin in the Treatment of Atrophic Rhinitis (often called Ozaena)” at the annual meeting of the Section of Laryngology and Otology of the British Medical Association held at Portsmouth in August last. A discussion followed which will be found to be interesting reading. (*Brit. Med. Jour.*, Vol. II for 1899, page 999.)

Dr. W. Fell, of Wellington, New Zealand, reports a case of puerperal sepsis in which strips of linen soaked in a 40 per cent. solution of Formaldehyde were packed into the vagina and left there for twelve hours. The temperature was rapidly reduced and the patient recovered with only a slight sensation of smarting. (*The Australasian Med. Gaz.*, Vol. XVIII, page 102.) Some observers recommend a vaginal douche of 1:500 in such cases as Dr. Fell's.

Dr J. C. Webster, of Montreal, Canada, has made quite a thorough study of infective peritonitis and has made an extended report in which he speaks with special reference to a suggested plan of improving the present methods of surgical treatment. He experimented on the normal peritoneum of dogs, and finally used it in the human subject in six cases with good results, making use of solutions varying from 1:2000 to 1:2500. (*American Gyn. and Obstet. Jour.*, Vol. XIII, pages 303 and 429.)

Dr. Gerdeck, a German infantry surgeon in the Department of the Rhine, advocates the use of Formalin in sweat-

ing of the feet. His plan of procedure is to paint the sole of the foot with a 40 per cent. solution of Formaldehyde three times each day. He applies none to the dorsum of the foot and only once between the toes. To counteract the odor of the sweat he distributes 4 or 5 drops of this solution in the shoes and warms them so as to spread the vapor throughout. This has the additional advantage of preserving the leather. Such a plan if adopted appears to have a lasting effect for three or four weeks, after which it can be repeated if called for. This treatment results in drying up the surface of the skin, and the sweating ceases. No toxic effects have been noticed and the deodorizing effect is quite complete. His experience throughout his infantry service was very gratifying. (*Deutsch. Militärärztl. Zeitschr.*, Vol. 27, page 165.)

The veterinary surgeons have also made good use of this agent.

Dr. Charles H. Higgins, of Canada, read a paper on "Formalin as a Surgical Dressing" before the annual meeting of the American Veterinary Medical Association held in New York city, in September last. He remarks: "This is my first and only experience with this new material, and from the success in this one case I think that it deserves a place in the hospital of every veterinarian. The treatment is a very painful one to the patient, but the good results more than counterbalance the suffering entailed." (*Jour. of Compar. Med. and Veterin. Archives*, Vol. XX, page 567.)

Dr. David D. Brough, of Boston, Mass., reports upon the results of his experiments for the Boston Board of Health at various periods for almost two years, in relation to the general question of this agent as a disinfectant. He states that he has tested a large number of generators and lamps and has generated gas directly from the solutions and from the solid forms, and whereas he could not quite substantiate all the claims of the manufacturers, he finds that the

opponents of the use of this agent have no real substantial ground upon which to base their opposition. (*N. Y. Med. Jour.*, Vol. LXVIII, page 931.)

A series of experiments has been carried on in the Pathological Laboratory of the University of Cambridge, England, by Dr. A. A. Kanthack, on the use of Formalin lamps for the disinfection of rooms, in which he compares two forms of lamps which are now in the English market. (*London Lancet*, Vol. II for 1898, page 1049.)

These individual lamps are not seen in this country, but similar ones are offered which come within the means of the majority.

The simplest and cheapest lamp for deodorizing yet offered appears to be the one originally designed for use in the New York Hospital by Sidney Rauschenberg, Ph.D. Its use in that Hospital has extended now over several years, and some minor points in the original lamp have been perfected. It was originally too small in capacity, but is now offered in more than one size, thus giving opportunities for more extended disinfecting. The lamp itself looks very much like a brass or metal kerosene lamp but making use of a small cylindrical chimney with a mica window through which to watch the burning within. The methyl alcohol is supplied from the reservoir below to a long cylindrical wick made of asbestos, called the converter, through a cotton wick, and after lighting, the converter is simply permitted to glow, consuming the Alcohol continuously as long as the supply lasts.

Prof. W. Prausnitz, of Graz, Austria-Hungary, recommends a very simple spraying apparatus, which is much cheaper than the ones ordinarily offered throughout the German Empire. (*Muench. Med. Wochensch.*, Vol. 46, page 3.)

Quite a variety of combinations with Formaldehyde have been suggested, each one of which presents certain claims needing verification by more general use.

A mixture of Formaldehyde, thymol, zinc oxide and starch has been given the short name of "Formoform."

"Paraform" (the polymeric form of Formaldehyde) has recently been recommended by Dr. P. G. Unna as a caustic agent for the treatment of cutaneous growths of various kinds, such as warts and the like. He recommends a 5 per cent. solution and states that it is quite harmless and may be given into the patient's hands for application.

Dr. E. A. Darling, of Boston, Mass., has carried on a series of experiments to prove that it is not only possible but practicable to sterilize catgut by means of dry heat with but slight change in its tensile strength, but he takes pains to state that dry paraform gas, which has been used by some observers, is of doubtful value, for all methods of sterilization which involve soaking in antiseptic solutions tend to weaken the catgut to a greater or less degree. (*Jour. of the Boston Society of Medical Sciences*, Vol. III, page 269.)

A general report has now been made of the permanency of museum specimens put up in Formaldehyde solution. In the Medical Museum of St. Bartholomew's Hospital in London considerable success has been obtained in procuring permanency of color in specimens which have now lasted some two years. (*Brit. Med. Jour.*, Vol. II for 1898, page 1449.)

It must not be forgotten that poisoning effects are occasionally produced when using this agent. Even a fatal case is on record abroad of a boy having drank 60 grammes (2 ounces) of a 4 per cent. solution.

Dr. Charles Bock, of Indiana, relates a case of fatal poisoning in the Indiana School for Feeble-minded Youth. (*Fort Wayne Med. Jour.-Magazine*, Vol. XIX, page 249.)

Gaiethol—the derivative of Guaiacol in which the methyl radical is replaced by an ethyl radical—has not been heard of during the past year.

Gallobromol (Di-Bromo-Gallic Acid) the agent which has been used internally for some little time past in a small way as a substitute for the alkaline bromides both by the dermatologists and genito-urinary surgeons, is still only rarely commented upon. The following formula is recommended in the treatment of gonorrhea in the male:

Gallobromol	4 grammes (	61.7 grains)
Distilled Water.....	100 “	(about 3½ ounces)
Glycerin	100 “	(“ 3½ “)

Glonoin (Nitroglycerin) needs little special comment here in relation to its claims, but the subject of intoxication by this agent has recently been brought out pretty strongly. Dr. Geo. C. Lows, of Paulsboro, N. J., has termed this condition “glonoinism.” His observations were obtained from the symptoms noticed among the workers in a nitroglycerin manufactory located on the banks of the Delaware river near the town of Gibbstown, not far from Paulsboro. Those interested in this subject will find his remarks in the (Phila.) *International Clinics* (Vol. IV, Eighth Series, page 1.)

This agent has been suggested and found of value in the hands of some observers in checking hæmoptysis in pulmonary tuberculosis. Half-hour doses of one-half drop of a 1 per cent. alcoholic solution were used.

Guaiacol—now obtained synthetically from Pyro-Catechin—is still used by some in preference to creosote in all the affections in which the latter has been employed.

Dr. Arthur H. Gault has made extensive use of it in pulmonary tuberculosis and pronounces it of undoubted value after having tried ichthyol with no distinct advantage. He writes concerning it in an article on “Experiences of a Consumptive Home.” (*Australasian Med. Gaz.*, Vol. XVIII, page 239.)

Numerous other observers report in the same favorable line.

The following combination has been recommended: Guaiacol Carbonate 3 parts, Ammonium Sulpho-ichthyolate 3 parts, Glycerin 8 parts and Peppermint Water 2 parts. This to be given in daily doses of from XX to XXX drops.

Dr. Moncorvo, of Rio de Janeiro, Brazil, has observed, after some extended observations in children, that Guaiacol has no influence on malarial fever, but does have a decided effect upon the fever accompanying tubercular affections. He therefore would make use of it as a diagnostic measure not only where he could exclude one or the other but even where the two affections are associated. He bases his observations particularly upon the fact that where local applications of this agent are combined with internal administration of quinine sulphate, both affections are arrested when they occur together. (*Bull. de l'Acad. de Méd.*, Vol. XLII, page 230.)

Dr. Charles J. Whalen, of Chicago, Ill., reports upon the successful use of this agent in three very severe cases of malaria. He does not claim to go as far as to call it a specific, but he does state that it is of greater value than any of the ordinary methods of treatment, for they have failed in some cases where this agent has succeeded. He presented four cases, but one of these was not cured although very markedly benefited. He believes that much larger doses would probably have had the desired results in this case. (*Chicago Med. Recorder*, Vol. XVII, page 19.)

Dr. Prozorovsky has made use of a mixture of Guaiacol 1 part and Tincture of Iodine 4 parts, in the treatment of eleven cases of serous pleurisy, by twice a day painting it over the skin and covering it with oiled silk or other airtight material. The exudation was rapidly absorbed—more rapidly than he would expect from other methods. He found that five or six applications were usually sufficient to complete the absorption. (*La Presse Méd.*, Vol. 7, first half, page 8.)

Dr. A. Villa, of Genoa, Italy, has made use of a 20 per

cent. solution of this agent in oil for arresting erysipelas around the umbilicus in the new born child. On the second day marked improvement was noted, and completely successful results on the sixth day. (*La Sem. Méd.*, Vol. 18, page 51.)

Dr. V. Leplat, of Wattrelos, France, has obtained gratifying results in the treatment of two cases of lupus by using equal quantities of this agent and glycerin. (*La Sem. Méd.*, Vol. 19, page 232.)

Dr. E. Bazin, of Bordeaux, France, recommends that 3 per cent. of Guaiacol be incorporated in mercuric iodide injections to counteract pain. He has used this combination in the treatment of syphilis for some length of time, with gratifying results. The following formula is recommended:

Sterilized Olive Oil.....	100 grammes	(about 3½ ounces)
Mercuric Iodide	0.50 "	(" 7.7 grains)
Pure Guaiacol (synthetic)..	3.00 "	(" 46.3 ")

(*La Sem. Méd.*, Vol. 19, page 104.)

Dr. J. Clifford Perry, of the U. S. Marine Hospital Service contributes an article on "The Efficacy of Guaiacol in the Treatment of Epididymitis." (*N. Y. Med. Record*, Vol. 55, page 8.) He tabulates some twenty cases which he has observed and concludes that "For the prompt cure of epididymitis I wish to emphasize the fact that guaiacol is the most valuable remedy we possess."

Mr. G. Hearn Parry, of Ventnor, Isle of Wight, advocates "Guaiacol Vapor Baths in the Treatment of Bronchiectasis." He publishes the details of a case observed in the Royal National Hospital for Consumption and Diseases of the Chest at Ventnor, which rapidly improved under this treatment after "baths of commercial creosote as advocated by other authorities had had to be abandoned on account of the unfavorable results produced." (*London Lancet*, Vol. II for 1899, page 210.)

The Valerianates of both Guaiacol and Creosote are still

recommended, especially in pulmonary tuberculosis. Dr. A. B. Briggs, of Ashaway, R. I., read a paper on their use, before the Washington County (R. I.) Medical Society relating eight cases. He remarks "all the patients in the chronic cases are still taking the valerianates, for they recognize the fact that as soon as they discontinue them they get worse, and by their continued use they are able to at least hold their own against the disease, while two of them are able to follow their vocations." (*N. Y. Med. Jour.*, Vol. LXIX, page 706.)

Dr. Eschle, Director of the District Hospital at Hub, recommends Guaiacol Carbonate in all tuberculous affections. (*Therap. Monats.*, Vol. XIII, page 368.)

A glycerol ether of Guaiacol under the coined name of "Guaiaamar" (patented) is recommended in the treatment of typhoid fever. Dr. George F. Butler, of Chicago, Ill., has made use of it in twenty cases both in his private practice and in the Cook County Hospital, and states that "while, perhaps, this is too small a number upon which to base an opinion of the value of any particular medicament, I can say that whether due to a fortunate coincidence or not, each one of these cases ran an unusually mild course." He concludes as follows:

"In calling the attention of the profession to this valuable remedy, I have recorded only my personal experience with the drug in private and hospital practice, which had been so auspicious that I can conscientiously and without reserve recommend guaiaamar as a remedy possessing a wide range of usefulness, probably surpassing any of the other derivatives of guaiacol.

I fully realize the responsibility I assume in so emphatic an indorsement of guaiaamar. Physicians who may have been induced to prescribe benzosol and kryofine from my recommendation of them during the past two years I am sure have had no cause to regret it, nor do I believe that any physician who will faithfully give guaiaamar a fair trial in

cases which seem to call for a drug of this character will be disappointed, but, on the contrary, will feel that an exceptionally valuable drug has been added to materia medica." (*N. Y. Med. Jour.*, Vol. LXX, page 438.)

Guaiacol Camphorate is a new form now offered which has not yet received enough attention to speak of its advantages or disadvantages. It is claimed, however, that this particular combination will prove to be valuable. Clinical reports no doubt will be made in the near future.

Guaiaguin (Quinine Guaiacol-Bi-Sulphonate)—the substitute for Guaiacol which received little comment last year, has not been specially commented upon except by Dr. Beverley Robinson, of New York city. He presented at the meeting of the Practitioner's Society, a case of secondary carcinomatous infiltration which had been treated by this agent:

"Dr. Robinson said he was induced to try guaiaguin in this case as an experiment, and he simply reported the result in the hope of inducing other members to give it a trial under similar circumstances, because these cases were often very troublesome and painful, and any remedy which would mitigate the symptoms should certainly be welcomed. Furthermore, recent investigations seemed to demonstrate that carcinoma was a parasitic disease, and from that standpoint medical intervention, with the use of drugs or serotherapy, again assumed practical value. The speaker said he had tried guaiaguin in several cases of malaria with rather uncertain results." (*N. Y. Med. Record*, Vol. 56, page 134.)

Guaiperol (Piperidin Guaiacolate) has not been heard of in the current medical literature of the past year.

Heroin is claimed to be a Di-Acetic Ester of Morphine and is offered as a new derivative of morphine. Little is given as yet of its mode of preparation or of the details of its manufacture. It is presented in the form of a colorless, crystalline powder with a slight bitter taste, quite insoluble in water, but does dissolve if a few drops of acetic acid be

added. Its chief claims are that it does not produce the well-known constipating effects of morphine or the disagreeable sequelae of most other narcotics. It seems to possess the power of lowering the temperature more markedly than morphine.

Dr. Max Einhorn, of New York city, is one of the very earliest to use this new agent in this country and he is also about the first to publish his experience with it. He states that he has used it "since January 1, 1899, either in powder form or tablets, or heroin hydrochlorid in solutions, giving 5 milligrammes ($\frac{1}{12}$ of a grain) twice daily." His formula is as follows: Heroin 5 milligrammes, Granulated White Sugar 300 milligrammes. He makes 14 powders giving one powder twice daily, or again Heroin Hydrochloride 75 milligrammes, Distilled Water 60 grammes, giving one teaspoonful twice daily. This was used chiefly in his service at the German Dispensary, although he made use of it in quite a number of his private cases. He presents a concise table of the Dispensary cases which include pulmonary tuberculosis, asthma, bronchitis, tabes dorsalis and others. He concludes as follows:

"It will readily be seen from the above that we possess in heroin a very valuable therapeutic agent. It principally allays cough and eases respiration, but it has also general analgesic properties which render it of benefit in most painful affections. Except slight dizziness and occasionally dryness in the throat, which I found but rarely, I have never seen any unpleasant symptoms even from a prolonged use of heroin, and I can heartily recommend it as a very valuable remedy." (*Phila. Med. Jour.*, Vol. 4, page 829.)

Dr. H. Dreser, of Elberfeld, Rhenish Prussia, appears to have been the investigator in Europe. His experiments seemed to prove that 0.001 gramme ($\frac{1}{64}$ of a grain) very decidedly lessened the respiratory movements in a rabbit, whereas codein had to be increased up to 0.01 gramme (about $\frac{1}{8}$ of a grain) to produce the same effect. He found

that the ordinary dose would have to be increased about one hundred times before it would approach a toxic effect. A dose of 0.01 gramme (about $\frac{1}{8}$ of a grain) was found to be sufficient for adults in cases of cough, and is of benefit in all subjects who breathe with effort after recent attacks of pneumonia, pneumothorax or cardiac affections. (*Gaz. hebdom. de Méd. et de Chirurg.*, Vol. III, new series, page 977.)

Dr. H. Leo, of Bonn, Rhenish Prussia, has had some very gratifying results from this agent. He has used it in many cases during the last few months, but finds that the dose recommended by Dr. Dreser produces, from his observations, unpleasant effects, such as giddiness, nausea and even fainting. Therefore he confines himself to 0.005 gramme (about $\frac{1}{12}$ of a grain) for each dose. He also finds that its action is only slight in relieving cough, but especially satisfactory in various forms of dyspnoea. In regard to its toxic effects, he states that notwithstanding the fact that experiment has apparently proved and as careful an investigator as Dr. Dreser states, that 100 times the medicinal dose is required to produce dangerous effects, still he finds that it is best not to exceed 0.03 gramme (about $\frac{7}{16}$ of a grain). (*Duet. Med. Wochensch.*, Vol. XXV, page 185.)

Dr. A. Eulenburg, of Berlin, Germany, recommends the subcutaneous injection of Heroin Hydrochlorate and has published its results after using it about 300 times. He approves of the dose used by Dr. Leo and agrees with him as to its value in cough and dyspnoea, but cannot agree with him in his conclusion as to the treatment of neuralgia, for he has obtained very favorable results in the different forms of neuralgia in which he has tried it. He has been gratified with its use also in the treatment of those addicted to the Morphine habit, and finds that two doses of Heroin to such patients will quite replace four doses of morphine. Again his experience would show that its narcotic effect is not equal to that of morphine and that after a more

or less extended use in most cases the dose must be increased. (*Deut. Med. Wochensch.*, Vol. XXV, page 187.)

Dr. A. Holtkamp, of Eitorf (a town on the river Sieg, which flows into the Rhine near Bonn), Prussia, has made use of this agent in 122 cases of acute and chronic laryngitis and bronchitis, in 12 cases of pleurisy with severe cough and pain, in 5 cases of pertussis, in 7 cases of muscular rheumatism and other affections. He claims that only in a few instances this agent disappointed him. (*Deut. Med. Wochensch.*, Vol. XXV, Therap. Beilage, page 25.)

Dr. Sigismund Wierzbicki, of Crakow, Austrian Galicia, also speaks highly of this agent in the treatment of cough and for reducing the serum of the expectoration. He states that aqueous solutions with the proper amount of acetic acid added may be used with good effect hypodermatically. (*Klin.-therap. Wochensch.*, Vol. VI, page 862.)

Dr. Georg Strube, of Berlin, Germany, reports upon the use of Heroin in the Berlin University Clinic with generally satisfactory results. He claims that it has proved itself to be a good substitute for morphine and codeine in quite all cases of irritable cough, but he cannot resist cautioning fellow practitioners to watch its administration with care, for he fears there may be a certain amount of toleration established, and chronic intoxication may be produced. (*Berlin. klin. Wochensch.*, Vol. XXXV, page 993.)

Dr. Morris Manges, of New York city, presents the results of his observations throughout the previous three months in a paper on "The Treatment of Coughs with Heroin," and makes the statement: "In allaying coughs the remedy was very prompt and efficacious in a large number of cases; in some of these cases the larger dose of a sixth of a grain was required. It is to be noted that the unpleasant after-effects occurred with these larger doses. The relief usually followed within a half hour after taking the drug. The cases were of the most varied kind, including acute and chronic bronchitis, emphysema, bronchiectasis, pulmonary

tuberculosis, pleurisy (acute dry and with effusion), coughing after anaesthetics, pneumonia, etc. In purely neurotic coughs the results were not so good. In some of the cases the relief was most surprising, being obtained where codeine and other drugs had failed." (*N. Y. Med. Jour.*, Vol. LXVIII, page 768.)

Dr. Julius Weiss, of Vienna, Austria, has published "A Further Contribution on Pure Heroin and Hydrochlorate of Heroin." (*Die Heilkunde*, Vol. III, page 268.) He appears to have simply verified the good results reported by others.

Dr. B. Turnauer, of Vienna, Austria, reports on his experience with this agent, varying only slightly from the general reports from others. (*Wien. Medizin Presse*, Vol. XL, page 458.)

Dr. Erich Harnack, of Halle, Prussian Saxony, feels called upon to publish the fact that this agent is not as harmless as was first claimed. He carried on a series of experiments on animals which do not bear out the claims of Dr. Dreser, thus showing that the effects are different when employed in human beings. His results however do bear out the statement made by some others that it has a far greater depressant effect on the respiration and heart than morphine has. He agrees with Dr. Leo in believing that Dr. Dreser's maximum dose is too large, and that it should not exceed 0.005 gramme (about 1-12 of a grain) until further observations have been made to warrant larger doses. (*Muench. Med. Wochensch.*, Vol. 46, page 881.)

Holocaine, the new synthetic substitute for cocaine as a local anaesthetic, is still prominently before the medical profession.

Dr. Hasket Derby, of Boston, Mass., has made quite a study of this agent in ophthalmological practice. He believes it to be superior to cocaine, and draws the following conclusions: It does not cause mydriasis, and therefore does not produce increased tension; it does not at all affect the

accommodation; it produces a deeper anaesthetic effect on the iris than cocaine; it has proved efficient in cases of painful inflammation where cocaine had failed; it appears to produce no toxic effects unless administered by the mouth or subcutaneously, and finally it has no effect whatever on the corneal epithelium. These observations have been reported previously, but Dr. Derby's confirmation of them is of value. (*Archives of Ophthalm.*, Vol. XXVIII, page 45.)

Dr. E. C. Ellett, of Memphis, Tenn., reports his results after a somewhat extended period. He performed 11 cataract extractions, 11 iridectomies, 2 paracentesides of the cornea, 5 capsulotomies, 1 excision of prolapsed iris, 3 advancements of ocular muscles, several tenotomies and pterygium operations and others. He concludes as follows:

"From the experience that these cases afford, I am well pleased with the action of holocain as a local anesthetic in eye surgery, and I beg to repeat that the profound insensibility of the iris is especially gratifying. In all my operations the wounds have healed well. My instruments are sterilized by heat and then by alcohol and latterly formol, and the field of operation is, as far as is practicable with mucous surfaces, rendered sterile. I have not used holocain in the surgery of the nose and throat." (*Phila. Med. Jour.*, Vol. 2, page 1143.)

Dr. John Guttmann, of New York city, read a paper before the German Medical Society of New York on "The Use of Holocaine as a Local Anaesthetic in Eye, Ear, Nose and Throat Operations." He closes by stating:

"In conclusion, I wish to say that during the last year I have employed holocaine instead of cocaine in about a hundred and fifty operations, and have never observed the slightest toxic or alarming manifestation. According to the investigations of several writers, it is not advisable to use holocaine hypodermically. Although holocaine will never entirely replace cocaine, yet it will frequently be of equal service, and, under certain circumstances, will even

be preferred to it." (*N. Y. Med. Jour.*, Vol. LXIX, page 848.)

Dr. Herman Knapp, of New York city, has written a "Note on the Use of Holocain," in which he makes a comparison between Holocaine and cocaine after more than a year's use. He makes the point that cocaine is purely an anaesthetic and not a remedy, whereas Holocaine has a very beneficial effect on septic ulcers of the cornea. He concludes that in this agent we have not only an excellent local anaesthetic, but also a very valuable therapeutic adjuvant to combine with other remedies. (*Archives of Ophthalm.*, Vol. XXVIII, page 315.)

Hydrargyrol (Mercury Para-Phenyl-Thionate), the antiseptic alluded to here last year, has not been heard of in current literature of the past year.

Hydrogen Dioxide in solution has had an increasing use throughout the past year and has become well established as a useful agent. Its sphere of usefulness has much broadened.

Prof. F. Touchard, of Paris, France, wrote a prize essay on its use as an antiseptic and haemostatic. He believes that it has not yet reached the position which it deserves and which it will eventually take in surgery. His observations would go to show that it acts as a vaso-constrictor. He claims it to be one of the most powerful bactericides, and especially valuable in all microbic affections of the mouth and throat—diphtheria, aphthous stomatitis and the like. He would urge its use in general surgery, otology and dentistry. (*Bull. Gén. de Therap.*, Vol. CXXXVII, pages 193, 286, 367 and 401.)

The ophthalmologists have made good use of it in ulcerative blepharitis, purulent conjunctivitis and granular conjunctivitis. They report that in the majority of cases remarkably good results followed irrigation under the eyelids.

In cases of persistent vomiting it has been recommended

to make use of 10 grammes (1 dessert spoonful) of a 10 volume solution put into 473 Cc. (1 pint) of water. From this dilute solution sips are taken throughout the day.

At a meeting of the Philadelphia County Medical Society, on April 12th last, Dr. George W. Spencer read a paper on "The Dangers of Hydrogen Peroxid in Surgical Cases." He believes that when the oxygen is liberated within cavities having small openings, injurious mechanical effects are produced. He related several cases to prove that such gas carries infection to points distant from the original focus. In the discussion which followed the reading of the paper some additional opposition was developed to its use in surgery. Dr. S. Solis-Cohen stated that he did not agree with the claims of many that Hydrogen Dioxide was a germicide, for its sole property was that of a cleansing agent.

Ichthalbin (Ichthyol-Albumen), the substitute for ichthyol, although evidently possessing some properties not as disagreeable as ichthyol, apparently cannot take the place of the latter, for it has not taken the prominence previously hoped for it. Practically the only definite report during the past year comes from Dr. Th. Homburger, of Carlsruhe, Germany. He evidently has met with great success in some diseases of children. (*Therap. Monats.*, Vol. XIII, page 361.)

Ichthyol (Ammonium Ichthyol-Sulphonate) has lost none of its importance during the past year.

Dr. Hugo Goldmann, of Brennberg, near Oedenburg, West Hungary, has for some time past been making use of a combination of creosote and Ichthyol in the treatment of pulmonary tuberculosis, as follows:

Creosotal	15 grammes (about 4 drachms).
Ichthyol	15 " (about 4 ").
Pure Glycerin	30 " (about 1 ounce).
Peppermint Water ..	10 " (about 3 drachms).

The dose varies from 20 to 30 drops, according to the age of the patient, and is given three times a day after meals, either in wine or lemonade. (*Wien. klin. Wochensch.*, Vol. XI, page 817.)

Dr. W. Schiele advocates the more general use of this agent even in advanced cases of pulmonary tuberculosis. He claims it acts not only in arresting the destruction of proteid substances, but is a valuable antiseptic. He does not at all depreciate the value of hygienic and dietetic treatment, but does believe that Ichthyol has a very potent effect when used with some expectorant. He does not think that it has yet been proved whether this agent acts directly on the diseased lung tissue, or whether its action is general. (*St. Petersburg. Med. Wochensch.*, Vol. XXIX, page 65.)

Dr. Wertheimber, of Nuremberg, Bavaria, reports upon his marked success with this agent in pulmonary tuberculosis. His experience now extends over quite two years, and he believes that the improvement noted is permanent. He calls attention to the fact that probably all observers will have noticed that the administration of morphine and atropine become less necessary after the use of this agent. (*Muench. Med. Wochensch.*, Vol. 46, page 795.)

Dr. J. Francis Souter, of Sydney, Australia, reports gratifying results from the use of pills of Ichthyol in the treatment of pertussis. He first tried its action on four of his own children, who varied in age from two years and six months to eight years. His initial dose was 65 milligrammes (1 grain), which he increased in a few days to 130 milligrammes (2 grains), and finally to 195 milligrammes (3 grains) and 260 milligrammes (4 grains). In each case he gave it every four hours, and obtained such favorable results that he tried it with equal success on ten other cases, none of which reported any ill-effects. (*Australasian Med. Gaz.*, Vol. XVIII, page 390.)

Dr. B. Goldberg, of Wildungen and Cologne, Germany,

in contributing an article entitled a "Communication on the Treatment of Urogenital Tuberculosis," urges the use of this agent and states that he has continued to use it for some length of time with excellent results. (*Berlin. klin. Wochensch.*, Vol. XXXVI, page 129.)

Dr. A. Freudenberg, of Berlin, Germany, reports having treated from 30 to 40 cases of chronic prostatitis by the use of rectal suppositories, made up as follows:

Ammonium Sulpho-Ichthyolate. 0.75 gramme (11.5 grains).
Cocoa Butter 2.50 grammes (38.5 ").

He cautions against the use of "hollow" suppositories. He gives one suppository in the morning after a movement and one just before retiring at night. (*Memorabilien* (German), Vol. XVII, new series, page 99.)

Dr. Heinrich Pohl recommends an Ichthyol tampon to be used in the vagina. The mixture used is a warm 10 per cent. solution of Ichthyol, glycerin and gelatin in which the cotton tampon is inserted several times until it has increased in size to that of a large walnut. After other details are followed the patient herself at once learns to introduce the tampon. (*St. Petersburg. Med. Wochensch.*, Vol. XXIX, page 83.)

Dr. L. Conitzer, of Hamburg, Germany, reports his results in the "Treatment of Anal Fissure with Ichthyol." Preliminary local anaesthesia is obtained with cocaine and then the Ichthyol is applied by any suitable means. After the first application it is not usually necessary to anaesthetize with cocaine. Complete relief is obtained in something short of a week or two as the case may be. (*Muench. Med. Wochensch.*, Vol. 46, page 80.)

This agent has been made use of in the treatment of pruritus, both in ivy poisoning and in the pruritus of the vulva in pregnant women. In the latter class of cases a 15 per cent. ointment of Ichthyol in lard is made use of.

The dental surgeons have been using this agent more fre-

quently during the past year. They prefer it rather than silver nitrate and other remedies for the reason that it has no caustic action and does not color the teeth. It appears to check the haemorrhage occurring after extractions, even when severe, by placing a tampon containing a 25 per cent. solution of Ichthyol in the cavities.

Internal administration of Ichthyol is being used more largely. Dr. J. Crocq, Jr., of Brussels, Belgium, has met with considerable success in the treatment of sciatica by administering internally gelatin capsules each containing 0.1 gramme ($1\frac{1}{2}$ grains) of Ichthyol. A local application containing Ichthyol was also used. He claims that this agent is the most effective yet known, and recommends its further use. (*La Sem. Méd.*, Vol. 19, page 208.)

Dr. Crocq again recommends a liniment containing Ichthyol 5 parts, Glycerin 2 parts and Water 3 parts in cases of sciatica. This is to be applied five or six times a day by actively rubbing it in. (*La Presse Méd. Belge*, Vol. 51, page 372.)

Dr. Hoerschel-Mann, of St. Petersburg, Russia, recommends the application of Ichthyol 10 parts and Lanolin 80 parts to shorten the course of the cutaneous manifestations of small-pox and prevent the pitting. He has obtained some success in this direction. (*Gaz. hebdom. de Méd. et de Chirurg.*, Vol. III, new series, page 1235.)

An ointment has been recommended consisting of Ichthyol 7 parts and Lard 3 parts in the treatment of measles. As the patient is covered from head to foot twice a day it is rather an unattractive form of medication, but it is claimed that if this be applied at a very early stage of the affection, it is quite possible to abort the attack and thus avoid both the skin eruption and the fever. Even if applied later the characteristic rash rapidly disappears.

Iodipin is a combination of iodine with the fatty acids in oil of sesame. It is recommended to be applied subcutaneously in tertiary syphilis. Some experiments have been

tried in this line by Dr. Viktor Klingmüller, of Breslau, Prussia. He claims that this combination has a specific action in this affection; its effects are more lasting than the ordinary iodine compounds; the so-called iodism does not occur and those patients who will not tolerate iodine in the ordinary forms, will obtain benefit when using this agent subcutaneously. (*Berlin. klin. Wochenschr.*, Vol. XXXVI, page 540.)

Drs. Ferdinand Winkler and Conrad Stein, of Vienna, Austria, have written an article entitled "The Use of Iodipins in Testing the Function of the Stomach," basing their conclusions on the fact that the iodine present is not liberated until it has reached the intestinal tract. A small proportion of oil of peppermint is added to mask the disagreeable taste. It was studied in some 46 cases by testing for the characteristic iodine reaction in the sputum. If the iodine reaction was delayed for over one hour it indicated some disturbance in the motor function of the stomach, for under normal conditions only one-half to three-quarters of an hour elapsed before the reaction occurred. They found that there was a delay of from one to four hours in cases of gastropnoia, dilatation and carcinoma. (*Centralbl. für Innere Med.*, Vol. 20, page 849.)

Iodocrol (Carvacrol Iodide)—one of the innumerable substitutes for iodoform—has not been heard of throughout the medical literature of the past year.

Iodoform apparently still stands firm against its many substitutes. However experiments continue to be in progress in order to obtain an odorless product. Several suggestions have been alluded to in these Comments in years past in the way of masking the odor, particularly on the hands and clothing. The use of dilute acetic acid or vinegar has again been repeated by some observers. It should be remembered that the best effect is to be obtained in general after thoroughly washing with soap and water.

One enterprising firm now offers an Iodoform without

odor, but naturally does not give the process by which they accomplish it. Only an extended use of this product will verify their claims, and if found completely efficient, will be a marked step in advance.

Dr. A. H. Ohmann-Dumesnil of St. Louis, Mo., has written concerning this "Odorless Iodoform" and explains that it only differs from Iodoform proper in that hydrogen is absent in its formula. He finds it to be free from offensive odor and from irritating effects. (*St. Louis Med. and Surg. Journ.*, Vol. LXXVI, page 241).

The literature upon Iodoform is now not only very extensive but is increasing. Therefore it will only be practicable to make reference here to a few of the unusual or important uses of it.

Dr. J.-L. Réniaç of Toulouse, France has made a report on his use of a mixture of Iodoform and liquid vaselin in the treatment of some fourteen cases of tuberculosis of the bladder. Six of his cases were greatly improved, seven showed simple improvement and only one showed no improvement. (*Gaz. hebdom. de Méd. et de Chirurg.*, Vol. 46, page 107).

Dr. Henry H. Whitehouse of New York City has made use of "Iodoform as an Internal Remedy in Lupus Erythematosus." (*N. Y. Med. Journ.*, Vol. LXIX, page 159).

Dr. N. J. Weill, assistant in the Zurich University Eye Clinic, reports the results of his experiments on "The Introduction of Iodoform into the Anterior Chamber of the Eye in Tubercular Iritis." He finds that absorption goes on slowly and that its influence is beneficial, even to the temporary retarding of the tubercular action, thus affording time to get the general system into a condition to resist further spread of the disease. Other forms of treatment are not excluded but are rather insisted upon as being quite necessary to attack the affection from all quarters. (*Archives of Ophthal.*, Vol. XXVIII, page 135).

The Paris correspondent of the London *Lancet* writes as

follows: "One of the most interesting communications made to the Congress of Medicine at Lille was that by Professor Pitres of Bordeaux, reporting that he had given up using injections of tincture of iodine in treating exophthalmic goitre. This method gives good results in simple goitre but it is liable to bring on abscesses in the exophthalmic variety. Professor Pitres now makes use of injections of an iodoform solution in ether. He injects one cubic centimetre into the tissues of the goitre at intervals of about eight days. The injections must not be made more frequently on account of the swelling provoked in the gland which lasts for some days. The pain caused is acute, but it only lasts for some 12 minutes. In a very short time after the first injection the nervous symptoms cease, sleep returns, the gland hardens little by little, becomes smaller, and the exophthalmos disappears. The patient continues to suffer for some time from cardiac irritability, but the arterial pulsations diminish and the sensations of palpitation disappear. Professor Pitres has treated 12 patients, but in only six of these has he followed up the results enough to draw conclusions of value. These six have remained well for over two years and none of the 120 injections carried out upon them was followed by any untoward result."

Dr. E. DeRenzi of Naples, Italy recommends for the diarrhea accompanying pulmonary tuberculosis, the combination of 2 grammes (30.9 grains) of Iodoform with 4 grammes (61.7 grains) of Tannin, made up into 10 powders, and from 2 to 4 are taken each day. For constipation in the same affection, he recommends: 2 grammes (30.9 grains) of Iodoform with 2 to 4 grammes (30.9 to 61.7 grains) of Naphthalin, made up also into 10 powders, and from 2 to 4 are taken each day. (*La Riforma Medica*, Vol. XIV, page 839).

Dr. Poinsoot advises the use of equal parts of Powdered Iodoform and Gelatin made up into the form of pencils which are recommended for many uses. These are apt to be rather soft for some purposes so he suggests equal parts

of Iodoform and Cacao Butter as being somewhat harder. (*Journ. de Méd. de Paris*, Vol. XI, page 271).

Iodoformogen (10 per cent. Iodoform), the combination of iodoform with albumen offered as a substitute for iodoform, has received a little more attention during the past year than the year previous.

Dr. Albert Wagner of Stuttgart, Germany contributes an article on "Iodoformogen, an Odorless Preparation of Iodoform." He emphasizes the fact that its odor is very slight, and that it is less irritating than iodoform. (*Muench. Med. Wochensch.*, Vol. 45, page 1529).

Dr. Julius Mahler of Buda-Pesth, Hungary has made effective use of this agent as a substitute for iodoform in tamponing the vagina. (*Allgem. Med. Central-Zeit.*, Vol. 68, page 381).

Iodogallicin (Bismuth Oxy-Iodo-Methyl-Gallol), the new antiseptic brought forward last year, has not been heard of in the current medical literature of the past year.

Iodol (Tetra-Iodo-Pyrrol)—the iodoform substitute—has received little comment in the literature of the year, although undoubtedly it is being used to some extent. It has recently been recommended to combine it with 1 per cent. of menthol in the treatment of affections of the nose, larynx and pharynx. It is administered by insufflation and is rendered more agreeable to patients by the addition of the menthol.

Iodothymoform is the name given to a new disinfectant combination prepared by the action of thymol upon formaldehyde under certain conditions. 100 parts of thymol are warmed up with 100 parts of formaldehyde (40 per cent.) and well stirred. Hydrochloric acid—100 parts—is then added, resulting in a thick, oily liquid, which after cooling becomes a solid mass. This mass is washed and dried and the following solution prepared: Of this dry mass 41.6 parts, alcohol 50 parts, potassium iodide 12 parts, iodine 32.8 parts. After certain manipulations an excess

of ammonia is added and this product "Iodothymoform" separates out, which is washed, dried and powdered.

Clinical reports are not yet offered.

Itrol (Silver Citrate) has not received as much attention during the past year as in the year previous. The only prominent mention comes from Dr. Schill of Dresden, Germany who has written "On Credé's silver salts (Itrol and Actol) as soluble silver." He has had good results in the treatment of the acute stage of gonorrhea. (*Therap. Monats.*, Vol. XIII, page 216).

Jambul (Jamun)—the seeds and bark of the *Eugenia Jambolana*—has not received much attention for some years past but it is still being used by some.

Dr. Arthur W. Smyth of Louisville, Ky. read a paper before the Louisville Society of Physicians and Surgeons on November 1st last on "Jambul in Diabetes Mellitus" in which he reports good results. (*Amer. Pract. and News*, Vol. XXVI, page 404).

Kryofin, the antipyretic closely allied to phenacetin has not received much attention during the past year in the current literature, although it is surely being used in many quarters.

The only prominent mention throughout the year has been made by Dr. G. A. Gilbert of Danbury, Conn. He writes on "Kryofine: A Clinical Study of its Physiologic and Therapeutic Actions." (*New England Med. Monthly*, Vol. XVIII, page 87).

Lactophenin (Lactyl-Phenetidin)—closely related to phenacetin—is still under observation by the medical profession. Experiments on animals continue, but little definite comment is made in the current medical literature.

Largin, the new silver compound with albumin, containing 11.2 per cent. of silver—closely allied to protargol—is still being used in a certain class of cases.

Dr. L. Fürst reports upon his successful use in the treatment of endometritis, cervical metritis, inflammation of the

vulva and inflammation of the urethra and bladder. He recommends an aqueous solution as weak as 1:200 to begin with and gradually increased.

Other observers have made good use of it in the treatment of gonorrhea, blenorrhea and the like.

Dr. G. Nobl of Vienna, Austria begins with a $\frac{1}{4}$ of a per cent. solution and increases up to 2 per cent. in the treatment of blenorrhea, injecting three times a day. He obtained his most marked success in acute cases, with complete results in about six weeks. His subacute cases were not so successful. (*Centralbl. für die gesammte Therapie*, Vol. XVII, pages 321 and 385).

The ophthalmologists of Europe have reported some good results in various forms of conjunctivitis, catarrhal ophthalmia, trachoma and affections of the lachrymal duct.

Liquid Air has now entered the field of medicine and surgery, not in the exaggerated way the current lay writers picture, however, but with a true scientific foundation. A definition and the mode of production of this new manifestation of the main support of animal life may not be out of place here. Liquid Air is simply the ordinary air we breathe cooled down to 312 degrees below zero, when it changes from a gaseous to a liquid state. This is accomplished in a series of cylinders, each cylinder of which compresses the air into a smaller and smaller space, and while passing from one cylinder to the other it is kept at a low temperature until it is finally compressed into about one eight-hundredth of its original volume. There was a long period of scientific experimentation before a mechanical device was obtained to accomplish this compression. It was first accomplished in a small experimental way in the laboratory, but now the results are obtained so economically that the use of the product comes well within the means of all. It was estimated that the first ounce of Liquid Air that was produced, cost in the neighborhood of \$2500.00. Within a year past the cost has been brought down to about 8c. for

seven gallons (a cubic foot), even allowing that only 25 per cent. of the Air was actually liquified. Since then even better results have been obtained by some manufacturers. When this Liquid is exposed to the ordinary air again it rapidly expands to its original volume and exerts a force of something over 12000 pounds to the square inch, which pressure for certain purposes of locomotion can be largely increased by a superheating process. It is quite easy to understand what a compact and useful agent this would be in a submarine craft. It could be stored in compact form and when liberated could do the following work: The cold developed would act as a preservative of food material, for instance, then when passed on to the engine of locomotion would furnish power, and finally when permitted to escape into the craft itself could be made use of to furnish the air for breathing.

As to its use in medicine, it has been experimented with for some time past and has proved of value in such skin affections as lupus, nevus and the like. Although the cold developed is intense its effect upon the tissues is not at all harmful when used as a local anaesthetic. Even when used locally in neuralgia it appears to have more than a temporary effect. There is some promise of its effective use as a bactericide. It surely has a very encouraging future. More definite clinical reports are awaited with interest.

A company has already been started for the purpose of cremation by this agent. By one of the latest improved processes the body is frozen thoroughly and then crushed between heavy rollers into a fine powder, of course in some receptacle like a bag. By another process the body is placed in a retort where the tissues go through a liquifying process, except the bony parts which simply crumble up.

Lycetol (Di-Methyl-Piperazin Tartrate)—the uric acid solvent—has received little special comment during the past year. The following correspondence with the Editor of the London *Lancet* may however be of interest: "The

action of lycetol in three cases that have come under my observation has been so marked that I am induced to record my experience and to ask any of your readers who may also have used it whether their experience is similar to mine or whether the results obtained when I was using it were merely a matter of accident. The first case was one of gouty sciatica of more or less intensity for about two years. During a desultory conversation not long since the preparation was accidentally alluded to as having been beneficial in similar instances and though at the time sceptical as to any probable good that might result I decided to try it. After its exhibition for ten days or so very great improvement was apparent. At the end of a month every trace of sciatica had disappeared and it has not since returned. The second case was one of rheumatic arthritis involving both carpal joints, especially the left, and the first phalanx of the left thumb. There was great pain, tenderness, and enlargement of both joints. Lycetol was given in the usual doses of from 8 to 15 grains twice daily, at 11 a. m., and 4 p. m., and on two occasions it was taken thrice during the day. Within six days the pain had practically ceased and within seventeen days the swelling and tenderness in each wrist had greatly subsided, the right one being nearly normal in size and the swelling in the left although not so markedly decreased is still becoming reduced. The third case was not that of a patient but of a brother practitioner who for many weeks had been suffering from gout and whose system was saturated with uric acid. I met this gentleman a few weeks since and related my experience to him as above. As he had been ill for some time with no marked abatement he elected to try lycetol. I heard from him a few days since and he says that the preparation 'has done wonders for him' and he 'will not be without it for the future.' No other treatment was adopted or any other drug used while lycetol was being taken and it was administered in alkaline effervescent mineral water.

"I am much interested to learn what it may have done in the hands of others in order to judge whether the rapid improvement in the three instances I have related may be fairly attributed to its use or whether it is to be viewed merely as a series of remarkable coincidences. Should the former prove to be the case we are probably in possession of a valuable adjunct in the treatment of rheumatism and gout and their allied disorders." (London *Lancet*, Vol. I for 1899, page 136).

Lysol (the saponified product of coal-tar, chiefly composed of cresols)—the substitute offered for carbolic acid—is still much used by the surgeon, but little individual comment has been made upon it during the past year.

Lysol has been such a comparatively safe agent that it has had few poisoning cases recorded against it. However one fatal case during the past year has been published. The patient was under the care of Dr. Heinrich Cramer of Bonn, Rhenish Prussia. He had made use of a dilute solution as an intra-uterine douche after labor. The result was so unexpected and unaccounted for that Dr. Cramer therefore does not feel at all discouraged from using this same douche in similar cases in the future. (*Centralbl. für Gynäkol.*, Vol. 22, page 1049).

Malarin is a new antipyretic agent which has been most thoroughly investigated by Dr. Leo Schwarz of Prague, Bohemia. He reported his investigations in a paper entitled "Experimental Research on Malarin, a new Antipyretic." (*Prager Med. Wochensch.*, Vol. XXIII, pages 465 and 478). It is prepared by heating molecular equivalents of Para-Phenetidin and Acetophenon which result in a condensation product in the form of a citrate. It is offered in the form of a yellowish-white powder, insoluble in cold water. The experiments have been chiefly carried on upon animals, and the German chemical manufacturers now offering it are looking for clinical reports, and recom-

mend it to be used not only as an antipyretic but as an antispasmodic. (*Therap. Monats.*, Vol. XII, page 560).

Mallein, the so-called "animal antitoxin" used chiefly for the diagnosis of glanders in horses, has continued to be used in veterinary practice with success by some. Others are skeptical.

Dr. Charles T. McClintock of Detroit, Mich. called the writer's attention to his erroneous statement in the Comments made here a year ago where he stated that this agent was an "antitoxin analogous to Tuberculin." It should rightly be defined as a mixture of the toxins and other active products of the bacilli of glanders, and thus rather a toxin than an antitoxin.

Dr. J. M. Wright, one of the State Veterinary Surgeons of Illinois, has written quite fully on "Glanders and its Suppression; Experiments with Mallein." He writes: "It is claimed by some very eminent men that mallein will cure occult glanders. Is it not possible mallein is given credit for doing what nature has done?" (*Journ. of Compar. Med. and Veterin. Archives*, Vol. XX, pages 12 and 96).

Menthol has not been commented upon to any great extent during the past year, but it has been used in various combinations where its presence has a special modifying effect. One of the more recent combinations is that with ether for the treatment of insect bites: Menthol 1 to 2 parts, Ether 10 parts. This is to be applied by means of a camel's hair brush, care being taken that none of the mixture gets into the eye. (*Gaz. hebdom. de Méd. et de Chirurg.*, Vol. IV, new series, following page 420).

A combination of 6 parts Menthol with 27 parts collodion is recommended as useful in bruises, applied once or twice a day.

Menthol Valerianate known by the short name of "Validol" continues to be recommended as a local application for its cooling effect to the skin, and as a carminative and stomachic in gastro-intestinal troubles.

A combination has been recommended of 3 parts Menthol to 1 part Phenol as an analgesic and an antiseptic. A solution of 3 to 5 per cent. in warm water has been used as an analgesic in minor operations. A dilute solution is recommended as an efficient gargle. This so-called "Menthophenol" has been used apparently for the past two years in combination with cocaine, by the laryngologists. To procure an anaesthetic which is effective and yet only mildly caustic, it is recommended to use equal parts of Menthol, phenol and cocaine hydrochlorate. Where a more caustic action is desired the Menthol and the cocaine hydrochlorate are reduced to one-half part each, the phenol to one part.

Menthoxol, the name given to the germicide combination of a 1 per cent. alcoholic solution of Menthol with a 3 per cent. solution of hydrogen dioxide alluded to here last year, has not been heard of in the current medical literature of the past year.

Methyl Salicylate (Synthetical Oil of Wintergreen) continues to be found of value especially as an alternate or combined with other agents in the treatment of rheumatism.

Dr. E. Schmoll of Basel, Switzerland confirms the favorable statement made by Dr. G. Linoissier and Dr. M. Lannois alluded to here last year, for he made use of it in 20 cases of rheumatism with good effect. It appears to be used to best advantage in articular rheumatism, and relieves the pain much more rapidly than sodium salicylate. The swelling of the joints and the reduction of the temperature take place more slowly than with sodium salicylate, and thus Dr. Schmoll has preferred to administer the two salicylates together. He has also obtained good results from combining this agent with antipyrin. In subacute and chronic rheumatism and in gouty arthritis it has marked advantages over sodium salicylate. In gonorrhea, syphilis and erythema nodosum his results were fairly satisfactory though not so pronounced. In the joint complications of

such eruptive fevers as scarlet fever, where antipyrin, sodium salicylate and salophen had very little effect, good results were obtained. Gratifying results were obtained in the treatment of neuralgia, sciatica, some forms of neuritis, herpes zoster and the like. In orchitis and in epididymitis excellent results were obtained. (*Correspondenz-Blat. für Schweiz. Aerzte*, Vol. XXIX, page 71).

Dr. Fornaca Luigi of the University of Turin, Italy has obtained successful results with it in the treatment of chorea by combining it with equal parts of vaselin and applying it locally over painful joints, thus relieving the pain and benefiting the chorea, especially in children. Its antipyretic action in erysipelas and scarlet fever have been noted. (*La Riforma Med.*, Vol. XIV, page 578).

Dr. Leredde finds it to be a most effective remedy in the treatment of pruritus in various skin affections. He uses it in the form of a thick ointment made according to the following proportions: 20 parts each of Zinc Oxide and Vaseline to 1 part of Methyl Salicylate. (*Bull. Gén. de Thérap.*, Vol. CXXXVII, page 671).

Methylene Blue (Tetra-Methyl-Thionine Chloride)—the anilin derivative—is still very largely used by practitioners generally.

Dr. G. Lemoine of Lille, France has recently written an interesting article on the employment of this agent up to date, not only including what has been done by other prominent observers, but the results of his own observations. (*Bull. Gén. de Thérap.*, Vol. CXXXVII, page 513).

Its value has been demonstrated by many observers in the treatment of nephritis. Drs. Ernst von Czyhlarz and Julius Donath of Vienna, Austria have written "On the Excretion of Methylene Blue Through Normal and Pathological Kidneys." (*Wien. klin. Wochens.*, Vol XII, page 649).

Dr. H. van de Velde of Amsterdam, Holland has reported on his "Researches in Regard to the Elimination of Methy-

lene Blue in Normal and Pathological Pregnancy." (N. Y. *Med. Record*, Vol. 56, page 495).

Dr. Landrewie of Toulouse, France not only finds this agent of value in malaria and as an analgesic and antiseptic, but especially effective in cases of cutaneous epithelioma. He would use this treatment first before the knife, even though it may only serve as preparatory to excision.

A dilution of 1 part Methylene Blue to 10 parts distilled water is recommended by Prof. S. Parenski of Cracow, Austrian Galicia in the treatment of malaria by injections of 1 Cc. (16.2 minims) each day. (*L'Indépendance Méd.*, Vol. 15, page 112).

This agent is rapidly showing its efficiency in the treatment of cases of insanity and other mental disturbances, according to some observers. It is difficult at times however to trace its beneficial action and to explain how the results are produced from what is known of its action elsewhere. Dr. Pietro Bodoni of Genoa, Italy has obtained satisfactory results with this agent as a sedative in certain forms of excited mental conditions. He employed it in 14 cases which included mania, paranoia with some delirium, chronic alcoholism and hystero-epilepsy. He made use of it by injecting from 65 to 100 milligrammes (1 to 1½ grains) into the gluteal muscles and obtained marked sedative action within a few hours. This would last from one to four days and no disagreeable sequelae would follow. (*Klin.-Therap. Wochensch.*, Vol. VI, page 666).

Drs. Ch. Vallon and Wahl of Villejuif, France have made use of this agent in 250 milligramme (4 grains) doses in this class of cases. Their observations included six insane patients. In one the result was very satisfactory, in four no special results were obtained, and in another the delirium was rather increased by its use and the color of the urine passed led the patient to suppose that he had been poisoned, and gave him other ideas of being persecuted. These cases are too few in number for these observers to

conclude that Methylene Blue is not a hypnotic in the insomnia of insanity. (*Le Progrès Médical*, Vol. X, 3rd series, page 257).

Dr. Heinrich Rosin of Berlin, Germany has been experimenting "Upon a New Group of Anilin Colors, and their Significance in the Biochemistry of Cells, and their Availability for Tissue Coloring." He claims to have produced a new dye to which he has given the name of "Eosinate of Methylene Blue," formed by the combination of eosin and Methylene Blue in concentrated solution. He found that the tissues decomposed this compound in such a way that the nucleus of the cell was stained blue and the protoplasm red. His observations will be found interesting to those who are studying in this line. (*Berlin. klin. Wochensch.*, Vol. XXXVI, page 251).

Naphthalan, the proprietary article made by dissolving $2\frac{1}{2}$ to 4 per cent. of anhydrous soap in purified petroleum naphtha, is still being pushed by its English manufacturers, and continues to be reported of value by many observers.

Its use has been almost entirely confined to the dermatologists.

Dr. Edmund Saalfeld of Berlin, Germany has reported 115 cases of eczema in all stages treated with this agent, and states that it rarely produced any irritation. (*Dermatol. Zeitschrift*, Vol. V, page 768).

Dr. Friedeberg of Magdeburg, Prussia has reported "On the Use of Naftalan." He finds that it is quite useless in the treatment of acne and articular rheumatism, and chiefly of value in eczema and similar conditions. (*Centralbl. für innere Medicin*, Vol. 20, page 801).

Other observers have made good use of it in burns of both the first and second degree, in venereal and phagedaenic sores, in ulcers of the leg and foot, in gonorrheal epididymitis, in impetigo contagiosa and the like.

Dr. Rohleder of Leipsic, Germany reports successful use

in a variety of cutaneous and venereal affections. He reports it as being an excellent application for all forms of eczema, except the most acute. Its most effective use is in the chronic and traumatic forms. He observes uniform improvement in psoriasis. He obtains good results in the treatment of all cases where ichthyol and sulphur have given satisfaction. It is quite useless in soft and hard chancre and in gonorrhea. He obtained favorable results from the introduction of rectal suppositories containing 5 to 10 per cent. of Naphthalan in the treatment of catarrhal prostatitis. (*Monatsh. für Prakt. Dermatol.*, Vol. XXVII, page 105).

Naphtalin (Naphthalene)—one of the hydrocarbons obtained from coal-tar—has received a little more attention during the past year than previously.

A Russian physician Dr. Achvlédiani has met with success in treating forty-three cases of chronic and acute eczema with an ointment composed of 1 part Naphtalin and 10 parts Lard. He, however, first dusts the surface of the skin, in the cases of acute and moist eczema, with a mixture of:

Salicylic Acid	0.15 gramme (about	2½ grains)
Zinc Oxide	30.00 grammes (	463.0 ")
Talc	70.00 " (	" 2½ ounces)

He describes the particular way in which he applies the treatment, and states that although the pain and the pruritus disappear in about a week, applications of the ointment are continued but may be diminished gradually after three weeks. (*Bull. Gén. de Thérap.*, Vol. CXXXVII, page 351).

Other observers report upon its quite extensive use in the treatment of various sores and ulcers of the skin, especially chronic ulcers of the leg. After the first week there is a marked diminution in the discharge and the whole aspect of the ulcer is changed for the better.

Dr. Albert Woldert of Philadelphia, Pa. has reported his experience with "Naphthalin in Typhoid Fever" in which he describes it as being a valuable remedy in preventing intestinal putrefaction and tympanites. He relates in detail the clinical history of two cases in which he paid particular attention to the condition of the urine throughout the course of the disease for the purpose of ascertaining whether or not any irritation of the kidneys ensued. He concludes by stating that this agent does not cause any irritation. (*Journ. Amer. Med. Assoc.*, Vol. XXXII, page 809).

Dr. A. L. Benedict of Buffalo, N. Y. wrote to the Editor of the above Journal in regard to Dr. Woldert's article as being in line with his own hobby, and what he says will be of interest to those who are working in the same line. (*Journ. Amer. Med. Assoc.*, Vol. XXXII, page 928).

Dr. M. Zangerle of Marburg, Prussia reports a case of Naphthalin poisoning occurring in his Clinic after the administration of two 2 gramme (30.9 grains) Naphthalin tablets. He gives the history of the case in detail. (*Therap. Monats.*, Vol. XIII, page 122).

Naphthoxol (a mixture of a 2 per cent. alcoholic solution of Naphthol and a 3 per cent. Solution of Hydrogen Dioxide) has not been commented upon in the literature of the past year.

Nirvanin is one of the most recent substitutes for cocaine which has been offered. Chemical investigators have evidently been working over the problem of procuring a local anaesthetic which would combine the most useful properties of both orthoform and cocaine; one which would be more soluble than orthoform and less toxic than cocaine. This present discovery is claimed to fill those requirements. Chemically it has the thrilling formula of Di-Ethyl-Glycyl-Para-Amido-Ortho-Oxy-Benzoic Acid-Methyl-Ester-Hydrochloride, and well deserves a short name. It is prepared by various chemical manipulations to produce the

proper arrangement of the radical groups to obtain the effective results.

Dr. A. Einhorn of Munich, Bavaria and Dr. R. Heinz of Erlangen, Bavaria have produced this product after considerable investigation. They used the well-known chemical process of substitution. (*Muench. Med. Wochensch.*, Vol. 45, page 1553).

It crystallizes but from absolute alcohol in colorless prismatic crystals. It reacts with a violet color when ferric chloride is added. It is readily soluble in water, giving a neutral solution. Complete anaesthesia is obtained after a short time if a 5 per cent. solution is dropped into the eye. A temporary irritation occurs but shows no toxic effects. On a less sensitive portion of the mucous membrane the anaesthesia does not appear to be sufficiently complete to render an operation at that part entirely painless. Wherever the solution can be brought in contact with exposed nerve ends, as by subcutaneous injection, the anaesthesia appears to be complete and continues long enough to perform a minor operation. It appears to be decidedly antiseptic in its action, even in as weak a solution as 1 per cent.

Dr. F. Klaussner of Munich, Bavaria has applied it in the treatment of sores, fissures, wounds and burns of various kinds, and found it superior to orthoform. (*Muench. Med. Wochensch.*, Vol. 45, page 1338).

Dr. A. Joanin reported on this agent at the meeting of the Paris Therapeutical Society on June 14th last, and stated that it compared favorably with beta-eucaine, but rather preferred the latter for the reason that it was more soluble in water and was capable of sterilization. (*Bull. Gén. de Thérap.*, Vol., CXXXVII, page 906).

Dr. August Luxenburger, Assistant at the Polyclinic at Munich, Bavaria, has made quite an extended study of this new anaesthetic. (*Muench. Med. Wochensch.*, Vol. 46, pages 9 and 52). Those who desire to read a translation in English will find such made by Dr. J. W. Wainwright of New

York City, in the *Philadelphia Monthly Medical Journal* (Vol. I, page 410). Dr. Luxenburger concludes that in the concentration in which it was used in his experiments it is certainly non-poisonous, and that it is to be preferred to cocaine and its mixtures "as a remedy for the production of infiltration and regional anaesthesia." . . . "Up to date the surgeon was compelled in the use of infiltrations to use Schleich's solutions I and II, which soon become cloudy and flocculent, or a 1% cocaine solution which always has to be prepared fresh. It is less complicated to secure a 2% stable nirvanin-solution, which is equally well acceptable for both kinds of anaesthesia, after having been diluted with sterile common salt solution."

Nosophen (Tetra-Iodo-Phenol-Phthalein)—the Iodoform substitute—continues to be used by an increasing number of surgeons.

Dr. D. A. K. Steele of Chicago, Ills. reports his experience after one year's use of this comparatively new antiseptic, and states that he believes it "is deserving of a far more extended use than it has thus far received." He commends "its use by all surgeons who object to the indestructible and offensive odor of iodoform, or who fear its toxic qualities and desire a good substitute that is haemostatic, sedative and antiseptic." (*Chicago Clinic*, Vol. XXII, page 196).

Dr. Horace Tracey Hanks of New York City, in speaking of Endoxin (the therapeutic form of Nosophen), repeats his favorable opinion regarding its efficiency in gynecological operations. His experience extends now over nearly four years and he believes Nosophen equal to iodoform. He favors a Nosophen gauze as an efficient dressing for abdominal wounds. (*Amer. Gyn. and Obstet. Journ.*, Vol. XIII, closing pages of the December number).

Dr. John S. Perekhan of Chicago, Ills. has published some "Clinical Notes on Nosophen, Antinosine and Nosophen-

Gauze," verifying the favorable experience of others. (*Chicago Med. Recorder*, Vol. XVI, page 22).

Dr. C. W. Kinney of New York City reports "A Case of Severe Ulcerative Keratitis Successfully Treated with Nosophen after Other Remedies had Failed." (*The Post Graduate*, Vol. XIII, page 944).

Orexin (Phenyl-Di-Hydro-Quin-Azoline—the appetite promoter and stomachic—is still before the profession both in its basic form and as a tannate.

Dr. Eugene S. Yonge of Manchester, England reports his satisfactory results in a large number of cases of anorexia. It proves to be especially effective in those cases where tonics and bitters have failed. (*The Therapist*, Vol. IX, page 120).

Some observers report excellent results in using it to relieve obstinate vomiting following chloroform narcosis, even in cases where other agents have been quite ineffective.

Dr. F. Hermann of Biebrich, Prussia reports prompt relief in nine cases of vomiting of pregnancy under his observation. He gave 325 milligrammes (5 grains) after each meal. (*Therap. Monats.*, Vol. XIII, page 24).

An increasing number of observations have been made with Orexin Tannate during the past year, with excellent results.

Dr. F. Siegert of Strassburg, Germany very decidedly recommends the Tannate in anorexia in young children. He gives it in doses of 0.25 to 0.5 gramme (3.5 to 7.7 grains) from one to two hours before each meal, and extends the treatment for ten days if called for. He does not approve of the chocolate tablets now so attractively offered, but much prefers the powdered form. (*Muench. Med. Wochens.*, Vol. 46, page 655).

Orthoform (Methyl Ester of π -Amido-*m*-Oxy-Benzonic Acid)—the synthetic local anaesthetic constituted like cocaine—continues to receive prominent attention throughout the medical world.

Dr. L. Teisseire has obtained excellent results when using this agent in the treatment of fissures of the nipple. It is applied either by insufflation or by a compress, care being taken to wash the nipples off well with boric acid solution before nursing. (*La Presse Médicale*, Vol. 6, second half, page 364).

Prof. Maygrier of Paris, France has obtained similar results in forty cases, with moderate relief. (*Med. Press and Circular*, Vol. LXVII, new series, page 84).

The laryngologists have made excellent use of it in ulcerative stomatitis, tuberculous ulceration of the mouth and certain affections of the nasal cavities. Insufflation appears to be the preferable mode of application, but an emulsion of 1 part Orthoform to 4 parts of Olive Oil has been found useful in particular cases.

Dr. Kindler, an assistant of Prof. Goldscheider in Berlin, Germany, has made good use of this agent in affections of the larynx, pharynx, oesophagus and stomach. (*Fortschr. der Medicin*, Vol. XVII, page 221).

Dr. Carl Kassel of Posen, Prussia has successfully used an emulsion of 1 part Orthoform to 4 parts Olive Oil as a laryngeal application. He has made use of this emulsion particularly in cases of tuberculosis. After the anaesthetic effect is accomplished, solid food can easily be swallowed and other remedies can be applied without discomfort to the patient. (*Therap. Monats.*, Vol. XII, page 556).

Dr. Friedr. Göppert of Breslau, Prussia reports on the use of Orthoform and Aneson in painful mouth affections of children. He recommends that they be applied by insufflation but regrets that their unpleasant taste is a disadvantage, particularly in children. (*Jahrbuch für Kinderheilk.*, Vol. XLIX, page 101).

Dr. Hildebrandt of Lüneburg, Prussia, has used a solution of Orthoform in warm alcohol to relieve the excruciating pain of an inflamed pulp in a carious tooth. It is intro-

duced on a plug of cotton. (*Dcut. Med. Wochensch.*, Vol. XXIV, Therap. Beilage, page 95).

Dr. Danchez recommends the following combinations for relieving the pain of an inflamed pulp:

Cocaine Hydrochlorate	0.10 grammes (1.5 grains)
Menthol	0.10 " (1.5 ")
Essence of Cloves	5.00 " (77.2 ")
Camphorated Alcohol	8.00 " (123.5 ")
Crystallized Carbolic Acid (liquefied) . .	.1 drop.

or 1 part each of Orthoform and Crystallized Carbolic Acid to 4 parts each of Camphor and Chloral.

In the discussion on this agent before the Paris Society of Dermatology and Syphilography in April last, Dr. Brocq reported on the "Dangers of Orthoform," stating that in the form of a solution it produced a redness and irritation of the skin accompanied with severe itching. In the form of an ointment he noticed that a very decided pruritic eruption occurs in from forty-eight hours to three days. Other disagreeable effects were noted, particularly when used for any length of time. (*Gaz. hebdom. de Méd. et de Chirurg.*, Vol. IV, new series, page 380).

Dr. F. Miodowski has reported his second case of disagreeable results following the use of Orthoform, which was that of an elderly woman with a varicose ulcer of the leg. The 5 per cent. ointment used apparently relieved the pain but finally left a gangrenous spot in the middle of the ulcer which had to be treated antiseptically with lysol. (*Muench. Med. Wochensch.*, Vol. 46, page 382).

Dr. W. Asan of Murnau, Upper Bavaria, has reported his experience with this agent which has not been uniformly satisfactory in nine cases. It apparently first produced favorable effects which lasted from three to fourteen days when a peculiar necrotic process set in. (*Muench. Med. Wochensch.*, Vol. 46, page 252). These unfavorable affects

have been noted by several others, and should act as a warning to those who make use of this agent.

Dr. Eugene S. Yonge of Manchester, England, feels called upon this year "to draw attention to certain by-effects of a toxic character which this substance has been recently discovered to produce." His letter to the Editor of the *British Medical Journal* is as follows:

"Orthoform is rapidly displacing the older remedies as a local anæsthetic for ulcerated surfaces; but, inasmuch as the most salient clause in the credentials of the drug relates to its innocuousness, I feel bound, as one of its English sponsors, to draw attention to certain by-effects of a toxic character which this substance has been recently discovered to produce. In a paper lately published, Asam-of-Murnau remarks that orthoform when applied to ulcers sometimes produces sloughing similar to that caused by pure carbolic acid. He has encountered this untoward symptom in 9 cases out of a "large number," a statement which, for statistical purposes, is of course useless. By-effects of this character have also followed the application of the anæsthetic, in the practice of a medical friend of mine in two instances, after a few days' application of the hydrochloride of orthoform. As I have details of about 50 cases in which orthoform has been employed, I infer that the incidence of this complication may possibly be looked for in about 4 per cent. of all cases. The local necrosis appears to cease as soon as the drug is withheld. Further, Brocq and others have pointed out that orthoform may give rise to redness, irritation, and inflammation of the skin; and Epstein (Breslau) has observed vomiting, collapse, and other unfavourable signs after the administration of the drug by the mouth.

"With these premisses one naturally arrives at the conclusion that it is necessary to watch carefully the effects of this otherwise useful local anæsthetic, and to omit the

designation of non-toxicity from its attributes." (*Brit. Med. Journ.*, Vol. II for 1899, page 57).

Paraldehyde (officinal) has been more commented upon directly during the past year than in the year previous.

Dr. Emil Raimann of Vienna, Austria, had a rare opportunity to study the effects of a large dose taken by mistake. Two patients being treated in Dr. Wagner's Clinic were given 50 grammes each (almost 2 ounces), and recognizing the fact early, the effects and the mode of its elimination were carefully watched. A considerable amount was eliminated through the lungs and the skin, but a very small part through the kidneys. The sleep produced lasted in the one case fourteen hours and in the other nineteen, but no ill-effects followed. (*Wien. klin. Rundschau*, Vol. XIII, pages 305, 323, 341 and 355).

Dr. A. Sangregorio reports that the addition of Paraldehyde to caffein enhances the effect of the latter in the treatment of cardiac affections, nephritis and cirrhosis of the liver by causing the oedema to disappear much more rapidly than when caffein or other diuretics are given alone. Chloral also was found to have similar if not better effects than Paraldehyde when given with caffein. (*La Sem. Méd.*, Vol. 19, page 192).

Dr. Alexander Macgregor of London, England, has related his experience with this agent in the treatment of asthma, giving eleven of his cases. He remarks as follows:

"In the treatment of hospital out-patients suffering from asthma morphine hypodermically is out of the question and it is not usually advisable to prescribe chloral in such cases. Paraldehyde is absolutely safe. It not only relieves the spasm but it induces tranquil refreshing sleep without any objectionable after-effects. Besides, no evil results follow a prolonged use of paraldehyde; it does not give rise to a habit, and on this account it is a much more desirable drug than morphine or chloral." (*London Lancet*, Vol. I for 1899, page 363).

Dr. C. C. Hersman of Pittsburg, Pa., reports on three experiments he tried with this agent. (*Journ. Amer. Med. Assoc.*, Vol. XXXIII, page 638).

Dr. William Mackie of Elgin, N. B., reports his results with this agent as a respiratory sedative. He introduces the subject as follows:

"Since I first suggested the use of paraldehyde in spasmodic asthma, now over six years ago, I have had frequent occasion to administer the drug both in purely functional respiratory troubles and in dyspnoic conditions arising from various causes, in many cases even where complicated with grave organic lesions. In no case where I have used it have I ever had occasion for regret, but, on the other hand, have always been pleased, and often more than pleased, with the result. I am glad to find that Dr. Macgregor has found it equally satisfactory in the cases in which he has used it. I may say that the suggestion of its use in asthma has not been altogether a dead letter. Dr. Header, of West Riding Asylum, Wakefield, in 30 cases of asthma, many of which were complicated with severe organic disease, found that it came quite up to the level of expectation and I have on several occasions had private inquiries from medical men as to the propriety of prescribing it in particular cases. To those I have uniformly replied that paraldehyde is a safe drug and may be freely given under almost all circumstances. So assured of its value in dyspnoic conditions generally have I become that I have long ceased to take notes of particular cases, but the two following, both of which were complicated with grave organic lesions, come fairly within the range of memory." He then relates the details of two cases. (*London Lancet*, Vol. I for 1899, page 756).

Its use in veterinary practice has also met with success.

Dr. Robt. S. MacKellar, a veterinary surgeon of New York City relates a few cases in which he employed it with success in preference to chloral hydrate, chloroform, ether

and other drugs. (*Amer. Vet. Review*, Vol. XXIII, page 107).

Peronin (Hydrochlorate of the Benzylic Ether of Morphine), proposed as a substitute for morphine, has not been commented upon during the past year.

Pharmacopœias and the question of their revisions are receiving much more attention than in previous years. Such a standard work in each country should be far more consulted than appears to be the case. If physicians particularly would study its pages more they would quite generally find preparations there offered which would most frequently meet their wants. Now that the United States Pharmacopoeia will soon be revised pertinent questions in the line of improvement are timely. The editorial advice given by the *Pennsylvania Medical Journal* (Vol. III, page 140) is well worth repeating here:

"In accordance with the call of President H. C. Wood, the National Convention for the Revision of the Pharmacopoeia of the United States of America, will be held in Washington, May 2, 1900.

At no time in the past has so much interest been shown in this work, as is the case now. The interest in this instance centers itself mainly on two points; one looking toward the general betterment of the Pharmacopoeia, in keeping with the lines heretofore adopted; the other, backed by commercial interests, having in view the inclusion of proprietary remedies in the official list.

Coming under the first head, may be mentioned the standardization of a number of official preparations made from drugs having definite active principles susceptible of isolation. The first attempt in this line was made in 1880, when preparations of opium were made to conform indefinitely to certain requirements in strength of alkaloids. In 1890 these requirements were made more definite, and the cinchona barks and nux vomica were included in the same list. This line of progress should, and doubtless will, be

continued in the coming revision, including such drugs as belladonna, hyoscyamus, conium, stramonium and many others of like nature. Some drugs, owing to the complex nature of their active ingredients, are practically insusceptible of standardization. Among these may be mentioned digitalis, aconite, veratrum viride and ergot, all important drugs, but all depending for their medical activity upon more than one ingredient, and these present in extremely small amounts.

For some of these a physiological assay has been advised, though whether this is practical in all cases, it is difficult to determine. Recommendations have been made from various sources, that many of the present official drugs, such as herbs, flowers, etc., would be dropped from the list. We believe such action would be unwise, for, although some of this class of drugs are not often prescribed by physicians, many of them are in common use as home remedies, and to retain them in the Pharmacopoeia will mean that they must conform to a standard in purity, and that penalties for their adulteration may be enforced. Many of these household remedies are of distinct value, and if more frequently recommended by physicians would do much toward discouraging the use of nostrums and proprietary remedies.

A strong attempt will doubtless be made to have included a number of proprietary articles, but we fail to see how this can logically be done. The object of the Pharmacopoeia is to furnish a list of drugs whose purity may be guaranteed by appropriate tests and requirements, and whose manufacture necessarily must be free. What, we ask, would be the sense of making antipyrin official, since its manufacture, and everything else pertaining to it, would not be under pharmacopoeial control? The code of ethics is distinctly opposed to proprietaryship in medicines, and that also should have appropriate weight. To exclude these synthetic proprietary remedies from the Pharmacopoeia, does not mean that they shall not be used, by whomsoever thinks

proper, but to include them would be to clothe them with ethical dignity, to which they are not entitled, and which would lower the tone and value of the Pharmacopoeia."

The report of the Committee on Pharmacy of the Pennsylvania State Medical Society is also well worth repeating here:

"Believing there is great need for fuller co-operation between the pharmacist and the regular physician, your committee deems it fitting to endorse the statements of former reports in regard to prescribing the legitimate remedies of the Pharmacopoeia and National Formulary. We desire to call attention to some progress in the right direction, as shown by the fact that pharmacists in a few places in our cities are making it known that their shops are conducted more for compounding authorized remedies than for the sale of proprietary and patent medicines. This feeble move is along the right direction toward educating the gullible public, not only to have a wholesome respect for rational treatment, but also to recognize economy and justice. The accusation that the profession is largely to blame for the sale and use of proprietary remedies is substantiated by the statements and statistics gathered from large wholesale drug houses and recently published by Prof. H. C. Wood, to the effect that at least ten per cent. of the whole patent medicine and proprietary trade is carried on through the physicians. This factor certainly should be eliminated. How much more satisfactory to the physician would our management of disease be, as well as more profitable to the skilled pharmacist, if this blot on our profession could be removed. We also believe that the true pharmacist agrees with us in this opinion. Through a leading druggist in one of our large cities, we learn that while there is a great demand for many proprietary remedies by the profession, the prescriptions of the most successful practitioners largely call for the true and tried remedies. The statement is encouraging, and your committee feels that if the standard

drugs were more widely used there would be less "counter prescribing," and more satisfaction and justice for all concerned.

The number of recent deaths from so-called "headache powders," promiscuously sold, has been startling. We believe that the pharmacist as well as the physician is anxious to restrict the sale of these articles, and any effort on his part to have these powders properly marked, either by the formula or by a caution-label, through legal measures, should have our encouragement; while we, as physicians, should go further and thoroughly discourage and protest against their use." (*Penn. Med. Journ.*, Vol. III, page 46).

Dr. H. C. Wood of Philadelphia, Pa. spoke very strongly on the subject of Nostrums at the centennial meeting of the Medical and Chirurgical Faculty of Maryland, and said:

"That all physicians have to do is to make it a governing principle that the only patented or proprietary drugs they will use shall be simple organic principles. The golden rule of living should be: give no certificates; use no proprietary combinations of medicines. In reference to the laws protecting two classes of new remedies, he believes there should be a difference. No vegetable or mineral substance which exists preformed in nature should be capable of being patented. It can in no sense be called an invention; the discovery of its medicinal value is almost always largely the result of chance, rarely of foresight. A process for the extracting from the drug of its active principle might, however, be patented, so that process-patents might be allowed for medicines of this class. On the other hand, when by synthetic method a substance which is not found freely existing in nature has been made by a chemist, such substance may well be said to be an invention of the chemist, and to be, therefore, capable of patenting." (*Phila. Med. Journ.*, Vol. 4, page 465). The original article of which this is an abstract occurs in the *Maryland Med. Journ.* (Vol. XLII, page 31).

The new British Pharmacopoeia has now been out long enough to be thoroughly commented upon, and from some quarters emphatically criticised. The compilation of the proposed Indian and Colonial Addenda is still going on and seems difficult of accomplishment for so many interests have to be satisfied. The correspondence and suggestions made from so many quarters are so voluminous that the task is a very difficult one. The simple question of the prominent consideration of tropical diseases adds largely to the amount of material which must be digested by the Committee. Those nations who have colonies are called upon naturally to consider such a question in a very detailed way. How to deal with such a dependency as the Dominion of Canada is quite difficult. The official British standard of strength, quality and purity must surely be enforced, but they cannot refrain from recognizing the French Codex and the United States Pharmacopoeia for very evident reasons. Therefore in laying down their general laws all drugs and preparations are to be deemed adulterated if their strength, quality and purity fall below the standards under which they are authorized.

Recently the Belgium Royal Academy of Medicine requested its Government to open negotiations with foreign Governments with a view to drawing up an International Pharmacopoeia. This subject is not a new one, and heretofore every time it has been brought up with any prominence it seems to have been finally set aside as being a somewhat impracticable scheme. However it would seem that some degree of uniformity might be established in relation to the more potent drugs and preparations throughout the world, leaving those which have only a local interest to vary in accordance with the requirements of the locality.

The Committee for the revision of the German Pharmacopoeia have about completed their work, and now it simply needs official recognition by the Bundesrath before

promulgation, thus there may be some delay before such is obtained.

Although it is now over a year since a Commission for the revision of the Swiss Pharmacopoeia was appointed, it was not able to begin until a few months ago, for the reason that no financial support was given it.

A new edition of the Italian Pharmacopoeia should have been presented by this time had promises been fulfilled.

The Spanish Royal Academy of Medicine recently appointed a Committee of five medical practitioners to prepare a new edition of the Spanish Pharmacopoeia—the last edition was revised in 1884.

The new edition of the Argentine Republic Codex is now published. The chief feature appears to be the fulness of its descriptions, especially in relation to microscopic structure.

A new edition of the Roumanian Pharmacopoeia is rapidly approaching completion.

Phenacetin (Para-Acet-Phenetidin) has lost none of its prominence as an antipyretic and analgesic throughout the past year, and calls for little comment here. It may be of interest, however, to record here that a new antipyretic has been suggested having the same physiological and therapeutic action as Phenacetin and which differs only slightly quantitatively. It is known chemically as Di-Acet-Phenetidin, being a so-called Acetylated Phenacetin. It is stated however that it is not likely to be used in medicine to any extent, for the reason that it is quite unstable and decomposes readily when exposed to atmospheric moisture, yielding acetic acid.

Phenalgin is a new coal-tar derivative offered as an antipyretic and analgesic. Chemically it is Ammonium Phenyl-Acetamide. It is offered in the form of a fine colorless powder with only a slight taste and pungent odor. It is insoluble in water. It is recommended for the relief of the pain in neuralgia and rheumatism, in doses of from 400 to

750 milligrammes ($6\frac{1}{2}$ to $11\frac{1}{2}$ grains). It is claimed to have hypnotic and anodyne properties and acts efficiently as a substitute for opium. The above reports come from abroad.

The most prominent observer in this country has been Dr. J. A. Hofheimer of New York City. He obtained excellent results both when used alone and in combinations, in eighteen cases. In reporting upon his observations, he concludes as follows:

"In summing up my experience with phenalgin, it was found useful in all cases where *pain* was a prominent symptom, acting especially well in rheumatic and neurotic cases. Also, like most of the drugs of its class, it has antipyretic powers; and in malaria, used alone or combined with *small* doses of quinine, it aborts or shortens the paroxysm. It has hypnotic as well as anodyne properties, and is of great service in cases where opiates are often indicated, especially as it leaves no bad after effects and engenders no habit." (*N. Y. Med. Journ.*, Vol. LXVIII, page 914).

Phenocoll (Amido-Para-Acet-Phenetidin)—the antipyretic—used now practically always in the form of Hydrochlorate has quite established itself with the medical profession. This being the case it appears to call for little comment in the current literature.

Dr. Giovanni Villani reports excellent results with it in the treatment of influenza, having employed it in some 400 cases during an epidemic of "grippe." He claims it to be quite a specific.

His dose for an adult is 3 grammes (46.3 grains) daily; for children 1 gramme (15.4 grains) a day. He met with such uniform success that it would seem as if it might almost rightly be called a specific. (*Gaz. Med. Lombarda*, Vol. LVII, page 482).

Dr. Salvatore Satullo reports upon his successful use of it in the treatment of malaria and rheumatism. He claims it to be an efficient substitute for quinine, particularly in cases of idiosyncrasy or with gastric disturbances. In

cases where quinine is contraindicated, as in pregnancy, it was most valuable. He recommends a dose varying from 1 to 2 grammes (15.4 to 30.9 grains) given just before the febrile attack. He has met with equal success in cases of rheumatism whether they be the acute or chronic form. (*Gaz. degli Osped. e delle Cliniche*, Vol. XX, page 132).

Phenosol is a new synthetic antipyretic compound containing 57 per cent. of Phenacetin and 43 per cent. of Salicylic Acid. Chemically it is Salicyl-Acetic Acid-Para-Phenetidin. It is offered in the form of colorless, needle-like crystals, very sparingly soluble in water, alcohol or ether. It splits up readily into its constituent parts. The dose varies from 500 to 600 milligrammes (7.7 to about 9.5 grains daily). It is recommended specially in the treatment of acute rheumatic affections on account of being prompter in action than salicylic acid or the salicylates. Few clinical reports are yet published.

Dr. Burghart of Berlin, Germany, Assistant in Dr. von Leyden's Clinic, has been practically the only observer to report. He speaks of the two allied compounds Pyrosal and Phenosol as having been used for nearly a year in the Clinic. He gives the history of 25 cases. (*Deut. Med. Wochens.*, Vol. XXIV, page 645).

Phesin, the derivative of Phenacetin has not received much attention. On account of the one report made this year, however, it may be of interest to recall its history. The radical SO_3 is introduced into the composition of Phenacetin for the purpose of rendering it less toxic, and the short name of Phesin is applied to the product. Two observers, Drs. Zoltán von Vámosy and Béla Fenyvessy of Buda-Pesth, Hungary, had experimented with this derivative as well as with another agent "Cosaprin" which is a derivative of acetanilid (brought out at the same time), by the introduction of the same radical group SO_3 . These observers found that whereas a healthy rabbit is killed by 1 gramme (15.4 grains) of Phenacetin, no ill-effects were ob-

served when 3 grammes (46.3 grains) of Phesin were given. This agent Phesin is offered in the form of a fine brown odorless powder with a slight caustic taste, freely soluble in water and with a slight acid reaction.

Dr. Richard Rosen of Berlin, Germany, is apparently the only observer reporting this year. He has made use of both Phesin and Cosaprin in 50 carefully observed clinical cases. (*Therap. Monats.*, Vol. XIII, page 156). A similar allusion is made to the above in these Comments under the head of Acetanilid.

Piperazin (Di-Ethylene-Di-Amine) has received as little comment in the past year as in the previous one.

The only prominent mention is made by Dr. Carlo Gioffredi of Naples, Italy. His results were very gratifying after a prolonged administration of this agent in the case of a man suffering from gout, having a gouty concretion located in the tendon sheath of the peroneus longus muscle. The relief came only at first to the general symptoms and not to the gouty concretion, but a diminution in the size of the concretion was noted the second day after an injection directly into the sheath of 50 milligrammes (4-5 of a grain) in $\frac{1}{2}$ Cc. (about 8 minims) of water. This was immediately followed by a severe burning pain which had to be relieved by the application of ice. The diminution in the size of the concretion was evident, although slight, on the second day, and the whole disappeared after ten injections. The local burning pain was relieved by spraying the skin with ether. Dr. Gioffredi recommends in future the careful injection of an even weaker solution of Piperazin within the joint. (*Gaz. degli Osped. e delle Cliniche*, Vol. XX, page 1055).

Protargol (the silver compound consisting of 8.3 per cent. of Silver combined with Protein) has received fully as much attention during the past year as in the year previous.

Dr. Morotti of Milan, Italy, reports favorably on its use in the treatment of gonorrhea in all stages. He varies the strength of his solutions from $\frac{1}{2}$ per cent. to 2 per cent. as he

progresses. He much prefers it to potassium permanganate. He also used it successfully in the vulvo-vaginitis of children. (*Gaz. Medica Lombarda*, Vol. LVIII, page 311).

Several other observers report favorably upon its use in gonorrhea.

Dr. Georg Berg of Frankfort-on-the-Main, Prussia gives his adverse opinion of it from his experience with ten cases of gonorrhea in which he used from $\frac{1}{2}$ to 5 per cent. solutions. He reports that no benefit resulted although no harm was done. (*Therap. Monats.*, Vol. XIII, page 259).

Dr. Jänner of Vienna, Austria reports on its use in some forty cases in the Ophthalmic Clinic of Prof. Von Reuss. The most marked beneficial results occurred in blennorrhea of the tear duct and sac, and where concentrated solutions were used cocaine was not required for local anaesthetic purposes. It was used in chronic cases and in ophthalmia neonatorum. He observed that it was of little use in catarhal conjunctivitis and trachoma. (*Die Heilkunde*, Vol. III, page 82).

Dr. Geo. H. Stubbs of Birmingham, Alabama reports on his successful use in the treatment of affections of the lachrymal duct and sac. He has made frequent use of solutions varying from 1 to 3 per cent. in chronic conjunctival catarrh. He repeats its advantages over silver nitrate in that its solutions keep well, are not affected by heat and are not irritating to the mucous membrane. (*The Alabama Med. and Surg. Age*, Vol. 11, page 432).

Dr. Edward S. Peck of New York City read a paper before the Section on Pediatrics of the New York Academy of Medicine on December 8th last entitled "Protargol and Argonin in the Treatment of Purulent Ophthalmia in Infants," relating some seven cases in which he showed the advantages to be derived from the use of Protargol in the treatment of gonorrheal ophthalmia. "The results obtained show that the duration of the disease has been shortened, that gonococci have disappeared at an earlier

date than usual, and that the sight of the affected eye has, to say the least, not suffered more than when other methods of treatment have been employed. In the earliest cases the protargol powder was dusted into the eye three times each day and allowed to remain fifteen minutes. This was soon changed to twice each day, but as the inflammatory reaction was marked and the patients complained of severe pain, a fifty-per-cent. solution was substituted, being applied twice or thrice each day and allowed to remain in the eye three minutes. Later, a five-per cent. solution was used and allowed to remain in the eye fifteen minutes. This last solution has proved to be the most satisfactory." (*Med. News*, Vol. LXXIV, page 68).

Dr. Fritz Engelmann of Bonn, Rhenish Prussia reports on the use of this agent in place of silver nitrate, in Credé's treatment. His cases amounted to 100 in all and he used a 20 per cent. solution which proved to be far less irritating and a more beneficial bactericide than the old silver salt. (*Centralbl. für Gyn.*, Vol. 23, page 905).

Dr. Arthur Alexander of Berlin, Germany made a report on "Protargol in Rhino-Laryngological Practice." After prolonged treatment he met with success in cases of chronic pharyngitis and atrophic rhinitis. His most satisfactory results were obtained from the use of a 5 per cent. solution in the treatment of empyema of the antrum. In cases of asthma he painted the nasal mucous membrane with a $\frac{1}{2}$ per cent. solution and obtained good results. Little benefit was obtained in acute cases of tonsillitis, pharyngitis and laryngitis. (*Archiv. für Laryngol. und Rhinol.*, Vol. IX, page 113).

Pyoktanin (Methyl-Violet)—the analin dye "pus destroyer"—has received little direct attention in the current medical literature of the year, but it continues to be a prominent agent. It may be interesting to just note here the following antiseptic suppository which has been recommended:

Pyoktanin	0.06 gramme	($\frac{1}{8}$ grain)
Extract of Belladonna	0.02	" ($\frac{5}{16}$ ")
Cacao Butter	2.00 grammes	(30.9 grains)

(*La Riforma Medica*, Vol. XV, page 324).

Pyramidon (Di-Methyl-Amido-Antipyrin) has apparently not attracted the profession as a substitute for antipyrin for which much was claimed, as practically nothing has been reported upon it during the past year.

Pyrantin—the antipyretic compound discovered a year ago, obtained by the action of anhydrous succinic acid on para-phenetidin—appears in the form of small, bright prismatic crystals which are only sparingly soluble in water and ether, but readily soluble in alcohol and acetic acid. Combined with sodium hydrate to form the salt it is rendered quite soluble and is now known under the name of "soluble pyrantin." Its physiological properties have been carefully studied by Dr. Carl Gioffredi of Naples, Italy who has published his results entitled "Pyrantin (Para-Eth-Oxy-Phenyl-Succinimid)." His experiments were carried on with animals to which he gave at times large doses. (*Deut. Archiv. für klin. Medicin*, Vol. 60, page 559).

Prof. A. Piutti of Naples, Italy has also given a description of this new antipyretic but adds little that is new to what Dr. Gioffredi has obtained by direct investigation. (*Therap. Monats.*, Vol. XII, page 560).

Clinical reports have not yet been made upon this agent.

Pyrogallol (Pyrogallic Acid) has received little attention throughout the past year. It however may be of interest to note that Dr. Paul Grüneberg of Halle, Prussian Saxony has made some exhaustive comparative experiments with Pyrogallol Tri-Acetate (known by the name of Lenigallol), Pyrogallol Mono-Acetate (known by the name of Eugallol), and Pyrogallol Di-Salicylate (known by the name of Salligallol)—all used in dermatological practice. (*Dermat. Zeitschrift*. Vol. VI, page 1).

Pyrosal, a new synthetic antipyretic compound containing 50 per cent. of Antipyrin, 36 per cent. Salicylic Acid and 14 per cent. Acetic Acid. Chemically it is Salicyl-Acetic Acid-Antipyrin. It dissolves sparingly in water, alcohol and ether, and readily splits up in the presence of acids. It has been studied in conjunction with Phenosol, and all the observations made upon it have been accomplished by practically the same observer, Dr. Burghart of Dr. von Leyden's Clinic. It is recommended in cases of acute rheumatism, and is found to be prompter in action than salicylic acid and the salicylates. (*Deut. Med. Wochensch.*, Vol. XXIV, page 645).

Resorcin (officinal) has lost none of its prominence during the past year. In some quarters it has been used in a little different line than heretofore.

Dr. A. G. Silbermintz of Poltava, Russia has made use of it in the treatment of vegetations occurring about the genital organs. A paste made by mixing this agent with water has been used as a local application, to be covered with a gauze compress, and this treatment repeated until the vegetations dried up and fell off. In other cases it was incorporated with flexible collodion in the proportion of one part to four. Care is necessary to clean the parts with boric acid solution before application. (*Rev. Pratique. d'Obstét. et de Gyn.*, Vol. 14, page 303).

Others have used it in the treatment of different manifestations of eczema in the form of a 25 per cent. solution on absorbent cotton.

It has been recommended in counteracting the toxic effects of cocaine by using the following combination: Resorcin 1 part, Cocaine Hydrochlorate 2 parts, Distilled Water 10 parts. Such a solution apparently enhances the anaesthetic action and the cocaine remains in solution.

Dr. L. E. Blair of Albany, N. Y. reports upon his experiments with various mixtures of Resorcin and Benzoïnol in

affections of the nose and throat. He has adopted the following formula as being the most satisfactory mixture:

Resorcin	5.000	grammes (about 80 grains)		
Eucalyptol	0.650	"	(" 10 ")	
Menthol	1.300	"	(" 20 ")	
Benzoinol	113.400	"	(" 4 ounces)	

The advantages of this mixture, he states, are that it is markedly anaesthetic and analgesic, antiseptic, astringent, non-poisonous, non-irritating and healing. He also remarks that it lacks the suggestiveness of the drug store, the almost characteristic odor of which iodine, iodoform and carbolic acid generally furnish. (*Albany Med. Annals*, Vol. XX, page 422).

Dr. Schwabe of Langensalza, Prussian Saxony has reported a case of Resorcin poisoning in which a solution was swallowed containing in amount about 1 gramme (15.4 grains) of Resorcin. The patient became unconscious. After a stimulant treatment had been carried out convalescence resulted, but it impressed those who witnessed the case with the importance of the care necessary to be taken. (*Der Kinderarzt*, Vol. X, page 103).

A Mono-Acetate of Resorcin under the name of "Euresol" has been offered as a useful application to those parts of the skin covered with hair. It is a thick oily product with an agreeable odor. Its efficiency is claimed to be increased by dissolving in acetone. A Tri-Bromo-Resorcin has been recommended as an effective antiseptic and bactericide with very slight toxic properties. Little however has been reported upon it.

Retinol (Resinol) has not been referred to here for some years past. This product is obtained by the distillation of Burgundy pitch. Under the head of Resinol, it is manufactured by a well-known firm in this country, and appears to still act as a useful solvent for many medicinal agents.

Dr. B. F. Ray now claims to have produced a product by the following formula which will accomplish anything that the product of the market does:

Sublimed Sulphur	2	grammes (about 30 grains)
Acetanilid	2	" (" 30 ")
Bismuth Oxide	2	" (" 30 ")
Lead Acetate	2	" (" 30 ")
Liquid Tar	2.2 Cc.	(36 minims)
White Petrolatum	23	grammes (" 6 drachms)

Carmines for coloring purposes, a sufficient quantity.

(*Journ. Amer. Med. Assoc.*, Vol. XXXIII, page 424).

Roentgen Rays (X-Rays) have received a large amount of attention during the past year owing to the various ramifications into which the subject may now be divided. Beside the term radiography which has been given to this department of scientific investigation, the English at times use the word skiagraphy and the Germans aktinography.

Improvement in the technique of the investigations in this line are constantly being made. There has recently been devised a new "break" for the induction coil which has been installed in the X-Ray Department of the Charing Cross Hospital, under the direction of Dr. Mackenzie Davidson. It is described as follows:

"The effect as we observed it in screen work was exceedingly good, the light being steady and the definition very fine. The new device has been introduced by Dr. Wehnelt, of Charlottenburg. It has been known for a long time that a strong current passed through an electrolyte will become intermittent or interrupted, and produce a note—sometimes a shrill one. It occurred to Dr. Wehnelt to use this as an "electrolytic break" for the induction coil. The apparatus consists of a cell filled with sulphuric acid and water, the specific gravity of the mixture being about 1.205. A sheet of platinum foil (such as is used in a Groves cell) is the cathode or negative plate in the cell. The anode or

positive consists of a small platinum wire fused into the end of a closed glass tube, and contact inside the tube is made by a little mercury and a copper wire dipping into it. This is immersed in the fluid. This cell is interposed between a 100-volt current and the primary terminals of an induction coil. When the current is turned on violent electrolysis takes place, a more or less shrill note is produced according to the size of the platinum point, and a thick ribbon-like discharge is produced at the secondary terminals. The method promises to be very useful. The Crookes tube is brilliantly and steadily illuminated and the fluorescent screen gives such an effect as is seen when a large Wimshurst machine excites the tube, but it is more brilliant, and photographic exposures are greatly shortened; the difficulty will be to get tubes to stand the current, and already the anodes of several tubes have been melted. Osmium is not disintegrated, but soon becomes white hot, and the vacuum alters rapidly under the intense bombardment. The primary of the coil used at Charing Cross Hospital took from 3 to 10 amperes, according to the size of the platinum wire used in the cell. No "hammer" or condenser is required, and a point of importance seems to be that this "electrolytic break" is very sensitive to any change of resistance in the secondary discharge, and reacts accordingly without the sudden jerks usual with the "hammer break." (*Brit. Med. Journ.*, Vol. I for 1899, page 551).

Dr. J. Macintyre of Glasgow, Scotland feels called upon to make some reply and suggestions to the above note on the improvement in technique which it will be of interest for those to read who desire to follow up this subject. (*Brit. Med. Journ.*, Vol. I for 1899, page 701).

Dr. J. S. Wight, Jr., of Brooklyn, N. Y. offers "Some new Suggestions in X-Ray Photography" and gives a picture of the results of his observations in the use of a sheet of very sensitive bromide paper, in the four cuts he presents. (*Phila. Med. Journ.*, Vol. 3, page 104).

Dr. B. Wiesner of Aschaffenburg, Bavaria offers a new Roentgen instrument for practicing physicians. He reduces the cost one-sixth by the introduction of a newly invented interrupter, and thus brings the price of the whole apparatus down to a more reasonable figure. (*Muench. Med. Wochensch.*, Vol. 46, page 382).

The experience of all observers in the use of these Rays in surgical work is increasing rapidly. Repeated opportunities are taken to locate bullets, needles, pieces of glass, a certain class of calculi and other bodies, so that much definite knowledge is being gained. As to clearing up the mooted points concerning fractures and dislocations and even as to the diseases of bones and joints, many valuable results have been obtained. An atlas has already been published containing a series of eighty illustrations of various fractures and dislocations depicted by this means which are very creditable. Surgeons will have to be very careful to express themselves conservatively as to their deductions, for it has been definitely shown that at times the picture as developed is misleading.

Dr. Francis H. Williams of Boston, Mass. has been one of the most energetic investigators and writers on the use of these Rays. He read a paper before the Section on Practice of Medicine at the last meeting of the American Medical Association held at Columbus, Ohio, on "Some of the Ways in which X-Rays Assist in Medical Diagnosis." His very interesting description of the static machines and coils which he has used to excite the vacuum tubes at the Boston City Hospital has probably brought the subject quite up to date as far as apparatus is concerned. He alluded to the prominent useful applications of these Rays, and concluded as follows:

"Since 1896 I have urged the more general use of X-ray examinations for infants and children, and I desire to take this opportunity to direct attention to the readiness with which these examinations may be made in young patients.

Not only the thorax, but the head and the various organs in the abdomen may be more easily examined than in adults. It is not necessary to excite the child by removing the clothing. Infants may be examined with the screen, or X-ray photographs may be taken while they are asleep." (*Journ. Amer. Med. Assoc.*, Vol. XXXIII, page 1207).

The progress made in the application of stereoscopy under the title of "Radiostereoscopy" has been very marked during the past year. That the fluorescent screen has been much perfected has been very gratifying to the medical practitioner, for it has enabled him to localize such interior troubles as aneurism of the thoracic aorta and abscesses, and has even given him the ability to diagnose some pathological conditions of the heart and lungs. All these points have been very prominently brought out by Dr. Mansell Moullin of London, England in his Presidential Address on "The Application of the Roentgen Rays to Medicine and Surgery," delivered before the Roentgen Society on July 4th last. (*London Lancet*, Vol. II for 1899, page 474).

Dr. Francis H. Williams of Boston, Mass. again contributes something to this subject in the way of describing "A Simple Method of Locating some Foreign Bodies by Means of the Fluorescent Screen." He says he has used this method for locating bullets in different parts of the extremities as well as in the neck, thorax, back and abdomen, usually readily determining their situation. (*Boston Med. and Surg. Journ.*, Vol. CXL, page 304).

Dr. Schuster of the Nauheim Baths, Hessian Germany has probably been one of the most extensive investigators in the use of these Rays in the diagnosis of diseases of the heart and aorta. His observations are extremely interesting. He states that various inferences may be drawn from the character of the shadow produced by the heart, also the relation between the latter and shadows due to such other parts as the vertebral column, the sternum, the diaphragm and the ribs. He finds, for instance, that he can demon-

strate that the heart does not rest on the diaphragm but is exclusively supported by the large blood vessels of the thorax. Under normal conditions a free space exists between the heart and the diaphragm during inspiration. When the heart enlarges the interspace is quite obliterated. Again adhesions will prevent the heart moving independently of the diaphragm. The persistence of the ductus arteriosus can even be detected at times. The initial stages of an aneurismal dilatation of the aorta has been detected by these Rays. (*Therap. Monats.*, Vol. XIII, page 421).

Dr. Aug. Hoffmann of Düsseldorf, Rhenish Prussia states that little attention has been given to the observations of the heart movement by means of these Rays, and alludes to the specially interesting observation of the irregular cardiac action brought out by X-Ray pictures, for he has repeatedly seen the different cardiac contractions take place and has had opportunity to see the arrhythmia in a well-marked Roentgen picture. He relates one case in which the apex beat of the heart could not be seen or felt by the ordinary means, and yet by means of these Rays a very weak contraction was readily recognized, for the movements of the left lower border of the heart could be easily seen. He took pains to take sphygmographic tracings of the pulse at this time and it gave no indication of this condition. He points out the fact that such a case might very easily have been diagnosed as bradycardia. (*Deut. Med. Wochens.*, Vol. XXV, page 243).

"The Relation of the Trachea and Bronchi to the Thoracic Walls, as Determined by the Roentgen Rays" has been studied by Dr. Joseph A. Blake of New York. He gives some excellent skiagraphical diagrams of his work. (*Amer. Journ. Med. Sciences*, Vol. CXVII, page 313).

Dr. Albert of Dresden, Germany has made quite a study of the diagnostic value of these Rays in pelvic deformities. He described his method of obtaining tracings of the brim of the pelvis and the position of the child, before the Dres-

den Gynecological Society at its meeting on December 15th last. Very gratifying results were obtained when examining the superior plane of the pelvis as well as in diagnosing flattened pelvis. He pointed out the difficulty he met with in the confusion of the shadows obtained by the promontory of the sacrum and the symphysis. He exhibited photographs of a fifth, sixth, eighth and tenth month's foetus. (*Centralbl. für Gyn.*, Vol. 23, page 418).

Drs. Redard and Laran of Paris, France presented to the French Congress of Surgery held in Paris in October 1898, a paper "On the Importance of the Radiograph for the Diagnosis and Treatment of the Deviations of the Vertebral Column" They were not only able to study very distinctly the shape of each vertebrae but even their internal structure and other points of value. (*Revue de Chirurg.*, Vol. XVIII, page 1103).

Some of the ill-effects of the Roentgen Rays are demonstrated in a case reported by Dr. Daisy M. Orleman of Peekskill, N. Y. (*N. Y. Med. Record*, Vol. 56, page 8).

Dr. Howard J. Williams of Macon, Ga. rather discourages the use of these Rays in medico-legal practice. He publishes a "Report of a Case of Cervical Rib, with Remarks on Mistaken Skiagraphical Diagnoses", and Dr. Samuel Lloyd of New York comments on the above report by publishing a note, in which he states that the use of the X-Rays in these cases "is likely to do much harm." (*Annals of Surgery*, Vol. XXVIII, pages 509 and 514).

Mr. Edmund Owen, Surgeon to St. Mary's Hospital, London, England has contributed an article on "Fractures—In the New Light."

"It is scarcely necessary to say that the "new light" to which I refer at the head of this article is that emanating from a Crookes's vacuum tube. We have known of its mysterious power only for a few years, and yet, after the manner of old-fashioned light, it has spread rapidly everywhere, and it is constantly illuminating dark places. The public

know all about it, and are taking more than a semi-intelligent interest in it. The man in the street looks admiringly at pictures produced by it which are exhibited in the windows of the surgical instrument-makers, and, paying his fee, he has a perfect right to go in and have a damaged limb "X-rayed" if he so chooses.

This very day I have seen an X-ray picture of the tibia and fibula which a lady had badly fractured about eighteen months ago. The lady went into the shop and paid her fees for two pictures; but the antero-posterior view revealed so much overlapping that the kind-hearted radiographer did not like to send it home. But as the side-view did not show much amiss he forwarded it. Back went the lady, saying that she had paid for two views, and that only one had been sent, and she insisted on having the other view. The radiographer, in a praiseworthy desire to prevent unpleasantness, excused himself and prevaricated (the lady told me that he was "almost rude"), but there was nothing for it but to send his work home. As soon as it arrived the lady was alarmed at it; the bones were overlapping in an unmistakable manner—anyone could understand it at a glance. I had had no concern in the early treatment of the case (which had been one of severe compound fracture), but the lady asked me to come round and advise. I explained that the overlapping of the fibula and its cross-union with the displaced tibia had rendered the mend extremely solid and strong, and that she had every reason to be satisfied with the result of the treatment, for I had been given to understand by the surgeons who had treated her that they were for some time doubtful if the limb would not have to be amputated.

Inconvenient illuminations of badly set fractures and of other cases in which, to put it mildly, Nature has not been enabled to triumph over osseous lesions are becoming, I should think, of almost daily occurrence, and the sooner every surgeon realizes this the better for his future peace

of mind. We may make a mistake about the diagnosis of a soft swelling or a stricture and it may not greatly matter, as the question will probably right itself in due course, but if we come to grief over a broken or displaced bone or epiphysis, it may be too late to remedy the mistake when the discovery is made. Possibly it is some lay friend of the patient, or it may be some other medical man, who takes the case to the radiographer, but the exact condition is at last manifested and our mistake is nailed upon the barn-door."

Other cases are mentioned after which Mr. Owen finally concludes:

"Lastly, in connection with the mistakes, failures, or imperfect results turned out by brother practitioners, it is our duty to be extremely charitable, and never to pass a hasty adverse judgment upon their handiwork; for it is just possible that when the case was first seen it was surrounded with difficulties of which at that time we can know nothing, and that the care and skill bestowed on it were worthy of a better issue. To judge merely by a result may be equally unfair and uncharitable." (London *Practitioner*, Vol. LXII, page 535).

Dr. H. Lyman Sayen of Fort McPherson, Ga. has written an article on "X-Rays in the Army" in which he concludes:

"It certainly seems that the recent developments in the design of X-ray apparatus have advanced it to such a state that there are great possibilities for the adaptation of it to work in the field. A covered wagon, drawn by two mules, would furnish the dark room, as well as the means of conveyance. It would have to be in charge of two men, who should be so trained in the work that they could, between them, take care of everything, from the secondary of the induction-coil to the hoofs of the mules. In the wagon might be placed a 12-inch induction-coil, so made that every part could be immediately removed and replaced by a duplicate, of which the wagon should contain a complete

set. It should also contain, besides a complete supply of tubes, and photographic apparatus, a little dynamo and a windlass, so that the mules could put in their spare time in charging the storage-batteries (although this seldom has to be done, as my experience at Fort McPherson demonstrated). A thousand pounds would cover the weight of the apparatus, and with such an equipment the wagon would be as independent as a company of infantry. The operators could bunk in their ambulance, besides carrying a plentiful supply of rations." (*Phila. Med. Journ.*, Vol. 2, page 1305).

Mr. Francis C. Abbott of London, England has written on "Surgery in the Graeco-Turkish War" in which he enlarges on the use of the Roentgen Rays, and draws the following conclusions:

"The Roentgen rays should always, if possible, be available at that hospital nearest the front in which the wounds can be first properly examined and dealt with.

The electricity should be derived from a secondary battery consisting of separate covered cells charged from the nearest town, a man-of-war or other steamer, or by means of a cyclo motor, as has been recently done in the Soudan by Major Batterby, R.A.M.C.

The skiagrams should be taken on to Eastman's positive paper which is sufficiently satisfactory for the detection of foreign bodies.

The apparatus is of no use on the field where the detection of bullets can only be an incentive to premature exploration.

The less wounds are tampered with before satisfactory surroundings are reached the better. All difficult bullets should be removed by a fresh incision and the track ignored.

The modern bullet from its greater penetrating power will be much less frequently found in the body than its predecessors. It is practically aseptic and there is no urgency for removal.

The hole of entrance is often extremely small. Suppuration is generally due to pieces of clothes carried into the tissues. Superficial septic sinuses should be excised. Wounds of lung by modern bullets run a comparatively favorable course.

Small-bore bullets may bore through a bone without causing any line of fracture whatever and every degree of injury from this up to the most extensive comminution may be met with.

Passive movements and massage when possible should be begun early in bullet wound fractures." (London *Lancet*, Vol. I for 1899, pages 80 and 152).

In diagnosing pulmonary tuberculosis, the use of these Rays has received much attention during the past year.

Dr. Richard Mühsam of Berlin, Germany has carried on a series of experiments with these Rays in experimental tuberculosis, from which it may be concluded that there is little proof that these Rays will have any direct relation in curing the affection. (*Deut. Med. Wochensch.*, Vol. XXIV, page 715).

Prof. H. Rieder of Munich, Bavaria comes to the same conclusion as Dr. Mühsam after carrying on experiments with guinea pigs, as well as with mice and rabbits. He also found that the local tuberculosis was restrained, and in several cases the general infection was somewhat delayed, but the animals finally died and quite as often just as rapidly as the control animals. He states that the results of the treatment of pulmonary tuberculosis by these Rays were quite contradictory, although they have not yet been very extensively tried. (*Muench. Med. Wochensch.*, Vol. 46, page 950).

Dr. Francis H. Williams of Boston, Mass. has something to say in relation to the early diagnosis of pulmonary tuberculosis, and read a paper on the X-Ray examinations as an aid in such early diagnosis, before the Boston Society for

Medical Improvement on February 27th last, in which he concludes as follows:

"I do not advocate giving up any other methods for making an early diagnosis,—we need all the aids we can have,—but I do strongly urge the addition to them of careful x-ray examinations, and I desire to emphasize the value of this method as a means of indicating early certain abnormal conditions of the lungs. We have two methods of examining the heart and lungs—auscultation and percussion. Each of these in suitable cases gives valuable information; they require a trained ear and experience with many patients to make them serviceable. In some cases auscultation is of the greater value, in others percussion; more frequently they are best when used together. To these we may now add a third method, which also requires special training, that of x-ray examinations. There are diseases in which each of the three methods may render the chief service, and each may in other cases be of little value. Usually, they should be used together: each supplements the other.

It seems well to repeat again, that even *fear* of burns in the use of x-ray examinations is unnecessary. I have made more than 2,000 of these examinations and no patient has received any burn or even inconvenience from them. Simple precautions, which may easily and should always be taken, prevent any *risk* even of injury." (*Boston Med. and Surg. Journ.*, Vol. CXL, page 513). The discussion which followed was interesting and of value. (*Boston Med. and Surg. Journ.*, Vol. CXL, page 513).

Later Dr. Williams again considered this subject by reading a paper on "Roentgen Ray Examinations in Incipient Pulmonary Tuberculosis," before the meeting of the American Climatological Association held in New York City in May last. His closing remarks are as follows:

"I wish to emphasize the fact that signs may be obtained by an X-ray examination when the disease in limited not

only to one side, but is just beginning even on that side, before there are physical signs in the first lung or cough.

It is interesting to note that X-ray examinations show that the disease begins oftener in the right than in the left apex.

In conclusion, I desire to urge the adoption of a method which aids in the early detection of pulmonary tuberculosis. First, because an early diagnosis gives the best opportunity to arrest the disease; and, second, because patients may then be taught early simple precautions which will prevent them from being a source of contagion to others should cough and expectoration develop."

The Swiss correspondent to the London *Lancet* wrote to the Editor as follows:

"Roentgen Rays in Cases of Phthisis.

Dr. von Beust mentions a case of doubtful phthisis with severe and prolonged catarrhal symptoms and hectic fever, bacteriological evidence being negative. The Roentgen rays showed a darker shade of the whole left lung probably due to hyperæmia and a darker shadow in the centre and towards the apex of the same lung where two weeks later bronchial breathing made an appearance. Both the darker shadow and the bronchial breathing disappeared on convalescence. Professor Pernet of the Physical Laboratory of Zürich exhibited the skiagram."

There has been so much written on this subject that it would be quite out of the question to go on further expanding on the different points brought out by the various observers. It will therefore only be useful to record here a few of the prominent writers on this topic, stating where the reports of their results may be found.

Dr. L. Stembo of Wilna, Russia offers some "Contributions upon the Diagnostic Value of X-Ray Examinations," having relation to a case of pneumothorax. (*Deut. Med. Wochens.*, Vol. XXV, page 454).

Dr. Hugh Walsham of London, England has written on "The X-Rays in Prognosis of Pulmonary Tuberculosis." (London *Lancet*, Vol. II for 1899, page 152).

Dr. A. W. Crane of Kalamazoo, Mich. has written a prize essay on "Skiascopy of the Respiratory Organs" in which he goes over the whole subject in a very detailed manner. (*Phila. Monthly Med. Journ.*, Vol. I, page 154).

Dr. Walter B. Metcalf of Chicago, Ills. has written an article on his "Original X-Ray Work and Its Value to Stomach-Diagnosis" in which he points out that the work done proves that its use is practical and broad in its scope. It "is accomplished by filling the stomach, cavities, or tracts with what I have termed my bismuth emulsion. Bismuth, a metal, is impervious to the x-ray as compared with animal tissue and bone, thus making it possible to see the shadow outlines of the cavities or tracts filled with the bismuth through either animal tissue or bone. Experiment showed that it was not necessary to have the dry metal, but that if it be held in suspension, its opacity is governed by the percentage of bismuth present. The bismuth emulsion is non-toxic, nonirritating, and can be made antiseptic, making it possible to fill any accessible cavity." (*Phila. Med. Journ.*, Vol. 4, page 401).

Dr. Peter Bade of Bonn, Rhenish Prussia suggests "A New Method of Roentgen-Photography of the Stomach" in which he does not make use of a substance impermeable to the X-Rays when determining border lines. He distends the stomach with air by which means the X-Rays pass through the body more readily and are not hindered as in Dr. Metcalf's plan. (*Deut. Med. Wochensch.*, Vol. XXV, page 627).

Dr. Ringel of Hamburg, Germany has followed up the experiments of some of the previous investigators, and confirms their observations that the different forms of renal calculi vary in their opacity to the Roentgen Rays, and a positive diagnosis is the only one that can be depended

upon, for certain class of calculi may be present but not necessarily detected. (*Centralbl. für Chirurg*, Vol. 25, page 1217).

Dr. Robert Abbe of New York City has made a study of renal calculi by means of these Rays, and has written an article on his "Observations on the Detection of Small Renal Calculi by the Roentgen Rays." He gives the history of some twenty cases of which he tabulates eighteen collected from the reports of others. The other two cases are personal ones in which the calculi were small and encysted in the tissue quite completely. (*Annals of Surgery*, Vol. XXX, page 178).

Dr. Hans Wagner of Breslar, Prussia has carried on a series of investigations on "The Use of the Roentgen Rays in the Diagnosis of Renal Calculus." (*Centralbl. für Chirurg*., Vol. 26, page 230).

Dr. Charles C. Leonard of Philadelphia, Pa. also writes on the same topic and in the same Journal (Vol. 26, page 234). He has used these Rays in seventeen cases of supposed renal calculus, in all of which he has succeeded in obtaining an outline of the kidney. In eleven he detected stone in the kidney which was confirmed by operation. For those who desire to read the same paper, in English, by Dr. Leonard, the *Philadelphia Medical Journal* may be consulted (Vol. 3, page 886).

"The Practical Application of the Skiascope" as the most accurate means of refracting the eye has been written upon by Dr. J. W. Sherer of Kansas City, Mo. He states that "The skiascope is capable of revealing very exactly the total refraction of the eye in every meridian, and especially of the central visual area of the cornea." He concludes as follows: "If those of my colleagues who have found the skiascope unsatisfactory and unreliable will try it with the suggestions I have made, I am confident they will not be disappointed, but will concede its real value." (*N. Y. Med. Journ.*, Vol. LXIX, page 525).

Dr. William M. Sweet of Philadelphia, Pa. records his observations in eighteen cases as a result of two years' work with these Rays in locating foreign bodies in the eye. He has devised a pair of forceps especially intended for the removal of metal from the eye, but as yet no opportunity has presented to determine its value. (*Phila. Med. Journ.*, Vol. 4, page 718).

Dr. Peter Bade of Bonn, Rhenish Prussia has also worked with these Rays from the obstetrician's standpoint. He gives a "Short Description of Ten Roentgen-Ray Examinations of the Fetus." The study of the development of the osseous tissues in from 10 to 18 weeks' fetuses is interesting. (*Centralbl. für Gyn.*, Vol. 23, page 1031).

Dr. H. Varnier of Paris, France has continued his experiments upon the cadaver with the Roentgen Rays. He has also been able, by lengthening the time of exposure, to obtain an outline of the foetal head in the living pregnant uterus, and thus determine whether or not it had entered the pelvis. If the mother is placed in the dorsal position the shadow of her vertebral column and of the limbs of the foetus will not give a tracing to interfere with the observation of the foetal head. (*Annal. de Gynécol.*, Vol. LI, page 278).

Experiments have been undertaken which have about proven that the ultra-violet rays of the spectrum differ from Roentgen Rays and are present in abundance when the Roentgen tubes are used. It was this discovery which lead to the suggestion that these Rays might be so modified, by cutting out the injurious violet rays, as to make them of value therapeutically. Such screened Rays have been used to some little extent in cases of eczema where they have eradicated the disease and only left slight inconspicuous scars.

Dr. R. Hahn has reported two cases of chronic eczema of the legs in which complete recovery followed after a few exposures. (*Centralbl. für Chirurg.*, Vol 26, page 317).

Dr. C. Thurstan Holland of Liverpool, England reports the history of a case of eczema treated by X-Rays. He explains their action as rather that of a stimulant of the tissues throughout the diseased area, thus enabling them to bring about recovery. (*Brit. Med. Journ.*, Vol. I for 1899, page 1024).

Sycosis and favus are now to be added to the list of those affections in which these Rays have given evidence of being beneficial. At a meeting of the Imperio-Royal Society of Physicians of Vienna, Austria on June 2nd last, Dr. L. Freund presented three patients who had been cured "in from seven to thirteen exposures." (*Gaz. hebdom. de Méd. et de Chirurg.*, Vol. 46, page 575).

Dr. Albers-Schönberg of Hamburg, Germany has made a careful study of the action of these Rays for the last few years, in the treatment of lupus, chronic eczema, favus and psoriasis. His results are interesting. (*Munch. Med. Wochens.*, Vol. 45, page 1577). Again he reports "On the Treatment of Lupus and Chronic Eczema by the Roentgen Rays." His cases of lupus were two severe ones of the face, and in warning others against using too powerful Rays, he states that he protected the healthy skin by means of sheets of lead. (*Fortschr. auf den Gebiete der Roentgenstr.* Vol. II, page 20).

Dr. C. Thurstan Holland of Liverpool, England reports two cases of tuberculous dermatitis treated by the X-Rays. (*Archives of the Roentgen Ray*, Vol. III, page 112).

Dr. Finsen of Copenhagen, Denmark excited great interest at the Tuberculosis Congress held in Paris in 1898 when he reported his results in the treatment of lupus and other affections by means of concentrated light. His principal assistant, Dr. Valdemar Bie, has now undertaken to describe Dr. Finsen's methods and results which appeared in the *British Medical Journal* (Vol. II for 1899, page 825).

"The readers of this JOURNAL know the name of Finsen from his red-light treatment of the exanthemata of the

different eruptive diseases, especially small-pox (for instance, *BRITISH MEDICAL JOURNAL*, December 7th, 1895). More recently Dr. Finsen has devised another method, applying light for therapeutic purposes; the technique of this method is now so far perfected, and it has been tried in so many cases, that it deserves to be more extensively known.

Dr. Finsen's treatment of small-pox was, as is well known, founded on the following considerations:

As the "chemical" (blue, violet, and ultraviolet) rays of light are capable of causing an inflammation (erythema solare) of the healthy skin, it might be assumed that they would equally be capable of aggravating pre-existing inflammations. In other words, if the diseased skin be protected against the injurious action of the chemical rays of light, it will be possible to diminish the intensity of the inflammation, and thus prevent suppuration. The object is therefore to exclude the chemical rays of light which are injurious to the skin. In the new way of treatment devised by Finsen these rays are now used as curative agents. The method consists in treating local superficial bacterial skin diseases by the concentrated chemical rays of light.

The experimentally proved data on which the method is founded are the following:

1. The bactericidal property of the chemical rays of light.
2. The power of the chemical rays of light to produce an inflammation of the skin (erythema solare).
3. The power of the chemical rays of light to penetrate the skin."

.....
 "The particular question which is of the greatest interest in this connection, is the following: Whether the bactericidal property is essentially attached to a single part of the spectrum or whether it resides only in the whole uncolored light. The most trustworthy examinations have given the result that it is especially due to the blue and violet rays"

"On the other hand, the red, yellow, and green are useless. Another condition for the advantageous use of the bactericidal property of the light therapeutically is that the bacteria are quickly killed."

"It is only when the light is concentrated in such a way that it contains as many blue, violet, and ultra-violet rays as possible that its bactericidal property becomes so powerful that it can be used therapeutically with advantage. That concentrated electric light, which Finsen now uses for the treatment of patients, kills the bacteria till now examined in a few seconds when they are spread in a stratum of agar about 1.5 mm. thick."

"The old name of erythema solare (erythema caloricum) proves that this disease was supposed to be due to a too intense heating of the skin consequent on the heat that always is inseparable from the light."

"It is still impossible to decide finally of what importance this photo-chemical erythema is in regard of treating bacterial skin diseases with concentrated chemical rays of light; but that at any rate it is not quite insignificant for the treatment of lupus vulgaris may be well considered probable, in view of the trials made of other methods of treatment which tend to cause an inflammation of the skin."

"The power of the chemical rays of light to penetrate the skin by placing small sealed glass tubes with muriate of silver under the skin of dogs and cats" was next investigated. "Then he allowed some of these animals to remain in the dark while he exposed the rest of them to the direct sunlight. After an hour he took out the tubes; and it was invariably found that the muriate of silver was blackened in those animals exposed to the sun, but not in those kept in the dark. The chemical rays of light can then penetrate the skin. Finsen thus proved that they penetrate far more easily in bloodless tissues than those filled with blood."

Based on these three experimentally-proved facts of—The bactericidal property of the chemical rays of light, The power of the chemical rays of light to produce an inflammation of the skin and The power of the chemical rays of light to penetrate the skin, “this method of treatment is so rational that objections can scarcely be raised against it from a theoretical point of view. In the treatment of patients sunlight is used in the summer, when the sky is bright, otherwise the light of electric arc lamps of 50 to 80 ampères. As already explained, it is only by concentration that the light becomes so powerful that its bactericidal property can be used in treatment. In order to avoid burning the skin it is also necessary to cool the light. This double object—to make the light stronger and cooler—is attained, in regard to the sunlight, by an apparatus such as is shown (a particularly constructed lens)”.....

“By making the lens of a blue liquid instead of solid glass a considerable cooling of the light will be obtained, because water absorbs the ultra-red rays, and because the blue color excludes a considerable amount of the red and yellow rays. These three kinds of rays have particularly strong heating effect, while their bactericidal power is insignificant. On the other hand, the blue, violet and ultra-violet rays, which it is important to procure in as great a number as possible, are but very slightly impaired by passing through the blue liquid.” A particular piece of apparatus is employed for concentrating the liquid arc light when used. “Lenses of quartz are used because this material in a far higher degree than glass allows the ultra-violet rays of shortest wave-length to pass through, and it is just the ultra-violet rays that have a considerable bactericidal effect. The apparatus for concentrating the sunlight may, on the other hand, be made of glass, because all the ultra-violet rays of the sunlight have so long a wave-length that they can pass through glass; those

of a shorter wave-length are already absorbed by the atmosphere."

"Four such pieces of apparatus for concentrating are fixed to an iron ring round each lamp, this ring again being fixed to the ceiling by four iron supports. The lamp is movable up and down by the mechanism and can be put exactly into the center of the ring by the aid of four strings which are connected with screws in the iron support." By certain manipulations "an area of skin of 1.5 centimetre in diameter is treated for one hour each day. The treated skin reddens and swells, a bulla may appear, but necrosis has never been observed."

"We have tried to treat different skin-diseases known or supposed to be of microbic origin, but it is only of lupus vulgaris, lupus erythematosus, and alopecia areata, that we have treated a number of cases great enough to estimate the value of the method." Some 350 cases of lupus vulgaris altogether have been treated. "The first patients were treated entirely by light; the same thing is done with all the slighter cases; on the other hand, in the more serious cases the treatment by light is assisted by treatment with pyrogallic acid ointment, in order to make the skin as smooth and easily penetrable by the light as possible. While one part is being treated by light, the pyrogallic acid ointment is put on another part; when the cauterisation is healed by a zinc ointment this area of skin is treated by light; this treatment with ointment is not necessary for obtaining a good result, but it saves much time for the patient. All ulcerations are kept free from crusts by a cataplasm of a boric acid solution. The mucous membranes are touched with a solution of iodine and iodide of potassium (1:2:2), or are treated with the galvano-cautery.

For the present, at least, only the skin, the hard palate, the front part of the septum nasi, tongue, and the mucous membrane of the cheek, can be cured by this method. In

none of the cases has the treatment been quite without effect, but in about 5 cases the improvement was very slow, either because the disease was progressing so rapidly that it was extending in one place while the treatment went on in another, or because the lupus was so deep that the light could only with difficulty penetrate to it. In all the 350 other cases the result of the treatment has been satisfactory. Of course it takes some time—until all the diseased tissue is thoroughly treated and the formation of scar tissue has begun—before any improvement is visible; but from the moment it begins it is continued without interruption until the last nodule of the lupus patch has disappeared. In all these 350 cases this result has been so certain and so constant that there is even reason to doubt the accuracy of the diagnosis of lupus vulgaris when this method of treatment appears to be ineffective.”

“The principal advantages of the method are, besides its reliability, its excellent cosmetic results, the infrequency of relapses and their slight extent, and the fact that the treatment is painless.

The good cosmetic result is due to the fact that there is no destruction of tissue, healthy or diseased. It is for the same reason that the results in respect to relapse are so favorable. One may, without harm, treat both the diseased tissue and the apparently healthy surrounding skin until one is fairly sure of having destroyed all the disease germs.”

“The treatment of lupus erythematosus has in many cases given excellent results—permanent recovery and firm scars. Nevertheless, the effect of the treatment is not nearly so sure as it is in the case of lupus vulgaris.”

“As the indication for the treatment by concentrated chemical rays of light is that the disease must be superficial, local, and bacterial, and as it is at least possible that

alopecia areata is due to an infection, we have tried to treat this disease. In January, 1899 when the first experiments were published in Danish, 7 cases altogether had been cured."

"On the whole the trials made till now look promising."

Saligenin (produced synthetically from Phenol and Formaldehyde) has received little attention in the current literature of the year. A new condensation product however under the name of "Antiarthrin" has been brought out and already used to some extent. It is a product formed by the combination of this agent with tannin. It is quite unstable and must be kept thoroughly dry to remain stable any length of time. Solutions rapidly decompose. It is recommended to give it only in the form of powder or tablets in doses of 6 to 10 grammes (about 90 to 150 grains) in 24 hours. It is reported to be non-toxic and to give rapid relief from pain when used for chronic rheumatism and gout. It acts very energetically as a diuretic, causing the elimination of large quantities of uric acid. The swelling of the joints and stiffness are rapidly reduced and the general health is reported to be improved.

Dr. F. Schaefer reports having treated sixty cases of gout and rheumatism with this condensation product with generally good results. (*Pharm. Journ.*, Vol. VIII, Fourth Series, page 583).

Salipyrin (reported to be a true Salicylate of Antipyrin) has pretty well established its reputation and is considerably used although little commented upon.

Dr. A. Butler Harris of Loughton, Essex Co., England writes to the Editors of the London *Lancet* as follows:

"As far as I can gather this drug appears to be but little known and less used in this country. In Germany its specific action in influenza has already been widely recognised. During the present epidemic I have used salipyrin very largely and my experience has been such that I think

a therapeutic note is justified in *THE LANCET*. Given in a mild case early enough the disease is cut short in a few hours; in what would be a severe case the pain is quickly removed, the temperature falls gradually, and, what is most important, there is no collapse, depression, or cardiac weakness from the action of the drug. Salipyrin is a salicylate of antipyrin and is supposed to break up in the alimentary canal into salicylic acid and antipyrin. It does not appear, however, that the depressing effects of antipyrin are manifested where salipyrin is used; the action seems to be chiefly antiseptic and anti-malarial. I have given it in three-grain tabloids, from three to six grains every three hours, according to the severity of the case." (*London Lancet*, Vol. I for 1899, page 797).

The above letter called out the following from Dr. H. Lyon Smith:

"In *THE LANCET* of March 18th appears a letter from Dr. Butler Harris drawing attention to the excellent results obtained by the use of salipyrin in influenza. As I have been using a similar compound for two or three years with most rapid relief of the headache, backache, fever, and malaise of influenza, and without any untoward symptoms following its use, I beg to submit it to the readers of *THE LANCET*. The formula I generally use is as follows: acetanilide, 30 grains; spirit of chloroform, two drachms; spirit of camphor, one drachm; salicylate of soda, one and a half drachms; water to six ounces; one ounce to be taken every four hours until relieved. In dispensing this, owing to the slight solubility of acetanilide, the spirit should be added first and the water added by degrees. The mixture contains always light flocculent crystalline masses floating near the surface and directions have to be given that the mixture must be well shaken each time of taking. Even in cases where the pulse is most feeble I have seen rapid improvement without the slightest bad symptom, evidently owing in some measure to the stimulating effect of the cam-

phor and alcohol. In most cases the sense of relief is attended by copious perspiration. The cost of the above combination is so much less than salipyrin that I recommend it especially to those practitioners who like myself have a great number of poorer-class patients who cannot afford to pay for very expensive prescriptions. I have three times had occasion to use it myself when attacked by influenza and each time with rapid convalescence, and in over 100 cases among my patients the compound has been invariably successful." (London *Lancet*, Vol. I for 1899, page 865).

At the meeting of the International Congress of Gynecology and Obstetrics held in Amsterdam in August last Dr. Oscar Beuttner of Geneva, Switzerland read a paper on the use of this agent in gynecology, and reported some 24 cases in which he met with success.

Nothing has been heard of the new compounds alluded to here last year called "Ferri-Salipyrin," "Nickel-Salipyrin" and "Cobalt-Salipyrin."

Salitannol, the new antiseptic condensation product (alluded to here last year) resulting from the action of Phosphorus Oxychloride upon a mixture of Salicylic Acid and Gallic Acid in molecular quantities, has not been commented upon in the literature of the past year.

Salol (Phenyl Salicylate)—officinal—continues to be a pretty generally used agent throughout the medical world, and now that its official character is well established, possibly less and less comment will be called for in the current literature. However it may be of value to allude to a few special uses and combinations which have been suggested throughout the year.

In the treatment of cystitis, a combination of Salol 2 parts, Salipyrin 1 part and Camphor Bromide 1 part has been recommended.

In the treatment of acute amygdalitis, Dr. Carron de la Carrière recommends the following formula:

Salol	4 grammes (61.7 grains)
Oil of Sweet Almonds.....	8 " (123.5 ")
Acacia	8 " (123.5 ")
Simple Syrup	50 " (about 1½ ounces)
Distilled Water	130 " (" 4½ ")
Essence of Peppermint.....	sufficient quantity

The dose is a tablespoonful every two hours. (*Le Progrès Médical*, Vol. IX, 3rd series, page 390).

For the stomatitis so often noticed in smokers, the following combination has been suggested: Salol 1 part, Catechu 2 parts, and a small quantity of Essence of Peppermint.

In burns of the second degree a combination of Salol, Cocaine Hydrochlorate and Vaseline has been made use of.

As an ointment for chapped hands: Menthol 1 part, Salol 2 parts, Olive Oil 10 parts and Lanolin 30 parts.

As an ointment for the treatment of gonorrheal rheumatism, the following has been suggested: Menthol 5 parts, Salol 8 parts, Ether 8 parts and Lanolin 60 parts.

Dr. Viallon of Dijon, France finds a Salol Tri-bromide superior to potassium bromide as a hypnotic in many cases, but it is especially valuable as an alternate of the latter salt. He has employed it as a hypnotic in 25 insane patients. In certain chronic affections like paretic dementia with periodic excitement, 2 grammes (about 30 grains) if given at bedtime often produced sleep, and always had a marked calming effect. It is of no value apparently in the insomnia of hysteria and melancholia or where there is any great degree of nervous excitement. (*La Semaine Médicale*, Vol. 19, page 104).

Salophen (Acetyl-Para-Amido-Salol) continues to be found a useful agent but has received little direct comment in the current literature of the year.

Dr. Creslé of Toulouse, France, in a thesis he wrote, emphasized the efficient action of this agent in cases of acute and subacute rheumatism, but called attention to the fact

that it is less constant in its action than sodium salicylate. Other drugs also show better results in chronic and blennorrhagic rheumatism. It however has apparently an incontestible analgesic action even though nothing further can be stated to its credit in many cases. He concludes from all the data he can obtain that 4 grammes (61.7 grains) is about the medium dose which should be given daily, of course, varied according to the case treated. (*Gaz. hebdom. de Méd. et de Chirurg.*, Vol. III, new series, page 1206).

The prompt action of this agent in influenza has been emphasized and attention called to its comparative harmlessness, tastelessness and lack of disagreeable sequelae, thus enabling the patient to continue its use for a lengthy period. Its action is prompt and is increased by administering with carbonated mineral waters. Very satisfactory results have followed from doses of 500 milligrammes (7.7 grains) given at intervals of two to three hours in attacks of influenza. Small doses are excellent as a prophylactic during epidemics.

Sanatogen, the albuminous preparation consisting of Sodium and Casein Glycerino-Phosphate prepared from Milk Casein, has not been heard of in the current literature of the year.

Sanose (the albuminous preparation containing 80 per cent. Casein and 20 per cent. Albumose, which is not a chemical combination but rather a mechanical mixture) has been kept prominently before the medical profession by those interested in presenting its varied claims. It has been little commented upon directly and appears most prominently in the advertising pages of the journals.

Dr. Biesenthal of Berlin, Germany describes this new food at some length. He has met with remarkable success in feeding infants and invalids. He points out its great advantage of having no taste and thus patients, especially children, take it very willingly. He calls attention to its superiority over Nutrose (the soluble sodium salt of casein)

in that the casein of the latter is in thick and indigestible clots, whereas in Sanose the casein is finely divided and therefore naturally more easily digested. Cow's milk, it appears, is rendered more digestible by the addition of albumose. He speaks of one case in particular which was apparently an unsatisfactory one to choose for the new preparation, for the infant was very much emaciated, but the result was excellent. He alludes to the diarrhea so often noticed after administering Somatose, and that it is due to the presence of the chlorides contained in the peptone and extracted from the meat. These are not present in Sanose, and therefore that peculiar intestinal irritation is avoided. (*Therap. Monats.*, Vol. XIII, page 204). He later gives some further details, which is his third contribution within a short period of time, in regard to the manner in which Sanose may be utilized as a food. (*Therap. Monats.*, Vol. XIII, page 268).

Somatose—the tonic and nutrient—has taken a very prominent place in the list of agents used by the medical practitioner. It may be well to repeat here what it really is. It has been very well described by Drs. Thomas Stevenson and Arthur P. Luff of London, England as being “a meat preparation in which the albumin of the meat is mainly converted into albumoses. It is a yellow powder, freely soluble in water, and forming a practically tasteless solution. In its form as a powder it practically represents meat almost desiccated, the albumin of which has been mainly converted into albumoses. This is shown by the following results of an analysis that we have made of the preparation which shows the amounts of its more important constituents:—

Deutero-albumose	51.60 per cent.
Hetero-albumose	13.40 “
Peptone	5.00 “
Water	11.04 “
Mineral matter	5.02 “

It is not contended that a person's life could be sustained by exclusive feeding on this substance which only purports to be a useful adjunct to other foods and which, though in itself of direct nutritive value, is also a stimulant to the digestive functions and a substance which therefore enables patients to tide over critical stages of illness. Many experiments have been conducted by others, which show that somatose is well borne by invalids, that it produces no disturbances of the digestive system, and that persons taking it along with other suitable food gain in weight and in strength. In view of the medical uses to which this preparation might be put as a meat nutrient we have been requested to investigate its effects on patients suffering from various diseases and on convalescents, so as to observe its influence on nitrogen elimination, and, what is of much greater importance, to ascertain whether its administration to such patients ever causes albuminuria, albumosuria, or peptonuria. It is evident should any one of these morbid conditions be produced that the employment of albumoses is to be deprecated."

These observers draw the following conclusions:

"As the result of our observations and experiments we have arrived at the following conclusions: (1) that somatose is a true meat nutrient possessing restorative and stimulating powers; (2) that it is well borne by delicate patients; (3) that it improves digestion and causes no gastro-intestinal disturbances; (4) that it has a favourable effect on general metabolism; and (5) that it has no irritant effect on the kidneys and that it never gives rise to albuminuria, albumosuria, or peptonuria. In those cases in which albuminuria existed prior to the administration of somatose the albumin gradually disappeared from the urine during its administration." (London *Lancet*, Vol. II for 1899, page 883).

Dr. Georg Joachim of Berlin, Germany "has found that patients are often unable to prepare solutions of somatose.

The best method of preparing it is as follows: Fill a wineglass with cold water, and then add three teaspoonfuls of somatose, which must be sprinkled on the top of the water. The wineglass should be moved as little as possible, so that the somatose remains on the surface of the water. After a few hours the solution is ready for use. The quantity required during the day is best prepared the evening before. The three teaspoonfuls of somatose is sufficient for the day. In the morning a third part may be taken with milk, at lunch, and later at dinner; the remainder should be mixed with soup or porter." (*Epitome of Brit. Med. Journ.*, Vol. I for 1899, page 8).

Dr. Henri Fournier of France recommends this agent in the treatment of secondary syphilis, particularly in cases showing very decided wasting, also in cases in which the blood shows a decreased amount of haemoglobin when associated with vertigo, insomnia and gastralgia. The syphilitic symptoms appear to abate when the patient begins to assimilate more food, and the addition of Somatose to cow's milk facilitates the digestion. He recommends the use of as small doses as 12 grammes (185.2 grains). He has obtained good results in the treatment of chlorosis and in the anaemia caused by malaria. His most pronounced results were obtained in cases of mercurial stomatitis. (*Journ. des Mal. Cutan. et Syph.*, Vol. X, page 194).

This agent has obtained additional notoriety among a certain class of the laity from the published report that the Pope's recovery after a recent illness and at such an advanced age, was largely due to its use, when his life had been almost despaired of. His physician in attendance administered it with chicken jelly and yoke of egg, taken every two hours with sweetened cognac brandy in the intervals.

Strontium, in the form of its various salts, has made a very marked impression upon some practitioners, particularly Strontium Bromide, and considerably more has

been written upon it during the past year than in the year previous.

Dr. A. Lockhart Gillespie of Edinburgh, Scotland has published a "Note on the Action of Bromide and Iodide of Strontium on Exophthalmic Goitre in Children." He gives his reasons why these salts of Strontium should be used instead of the corresponding sodium or potassium salts.

"Strontium salts do not seem to cause so marked constitutional effects; none of the cases treated showed any signs of bromism or iodism. Again, it is a tenable hypothesis to suppose that salts of a metal not present in the body, except perhaps in traces, may exert a more profound effect upon an abnormal condition of the organs and upon pathological processes, even although they are not so poisonous in other directions, than the corresponding salts of metals already abundantly present in the tissues."

He gives the details of three cases and simply records three others.

He finally adds:

"One word of warning in conclusion: the strontii bromidum is deliquescent, and should be prescribed in solution, not in powder form. The dose of the bromide for an adult is generally given as from 10 to 30 grains, of the iodide from 3 to 5 grains and upwards." (*Brit. Med. Journ.*, Vol. II for 1898, page 1042). He suggests the following formula:

Strontium Bromide ...	6.0 grammes (	92.6 grains)
Strontium Iodide	12.0 "	(185.2 ")
Peppermint Water	20.0 "	(303.6 ")
Syrup of Peppermint..	20.0 "	(303.6 ")
Distilled Water	40.0 "	(617.3 ")

The dose of this solution is 4.0Cc. (65 minims) three times a day. (*Klinisch-therap. Wochensch.*, Vol. VI, page 1158).

Dr. Antony Roche of Dublin, Ireland has made quite an

extended study of Strontium Bromide in the treatment of epilepsy. He has been publishing his results from time to time since 1894, and now gives "Some Further Notes on the Use of Bromide of Strontium in Epilepsy" where he states:

"I have not met any case in which the bromide of strontium given in the doses and method I will mention has failed to diminish the number of the attacks. In many instances there has been no return for periods extending to two, three, and even four years. Some of these cases may be considered "cured"—that is, that there will be no return of the attacks when the medicine is permanently left off. I cannot say definitely that this is so, for the reason that I always recommend the patients to continue the medicine, even though there has been no return for a long period. I do this all the more as I have not found the continued use of bromide of strontium to be followed by any bad consequences, and many of the patients have been taking 1 drachm daily without intermission for more than three years without any complaint. In this respect the strontium salt has an immense advantage over the potassium salt, which has frequently produced serious physical and mental changes when continued for long periods. Moreover, patients taking bromide of potassium frequently suffer from intense depression. Several of my patients were obliged to leave it off owing to this; in fact, several expressed their feelings by assuring me that they would rather suffer from the fits than from the depression produced by the medicine. I have not noticed this at all in those using the bromide of strontium. The potassium, too, is poisonous in large doses; the strontium is not."

"In my earlier cases, being influenced by the remark of Brown-Séquard that the combined bromides were more useful, I gave the bromide of strontium combined with one or more of the other bromides, but for a long time I have

given that of strontium alone. I usually commence the treatment by ordering half a drachm night and morning in some vegetable tonic infusion. Should that dose not control the attacks I rapidly increase it till I have found the quantity which will suit the individual case. I direct the patient to take 30 grains at once in those cases where there is any warning of the attack and to repeat this every hour if required. By this means I have no doubt the attack has been frequently prevented. I may repeat that in my experience in order to get the full benefit of the medicine I have found it necessary to give it in large doses and to continue it for a long period. Since my first communication several members of the profession have written to me saying that in their cases they have not found the same good results. I invariably find that in these cases the dose given has been too small and consequently that my practice has not been followed. I need not say that each case requires to be studied on its own merits and any exciting or predisposing cause lessened or removed." I do not think it necessary to go any further into this question, as these notes are not upon the general medical or surgical treatment of epilepsy, but upon a special medicine, nor need I give my experience in the use of any other of the many remedies proposed. Many of these I have tried, but none have given me the same good results as I have found by the use of bromide of strontium.

"I should say, however, as I have more fully explained on a former occasion, that I regard the question of diet as one of much importance. I direct my patients to restrict themselves to fish and vegetables, and I generally find no great difficulty in having my orders carried out. When the attacks diminish in number, if I am pressed to do so I allow the more easily digested meats twice or three times in the week." (London *Lancet*, Vol. II for 1898, page 988).

He feels called upon to write again soon after on account of the numerous letters which were received from members

of the profession showing considerable interest taken in his mode of treatment, but particularly to answer some questions. He then concludes:

"As regards the practical results of this treatment I have now had for some years a considerable experience in its effects in no small number of cases. I have never met with a carefully investigated and persistently treated case in which the number of the attacks was not materially diminished and I have met with many cases in which there has been no return at all of the attacks even after an interval of so long as four years, the patients still continuing the medicine. When I remember the results produced by other modes of treatment and the unfavorable prognosis given by all writers upon this affection I cannot help thinking from its safety and success that it is worthy of extended trial. I have in this communication abstained from any discussion upon theoretical questions in connexion with this disease or of any other methods of treatment." (London *Lancet*, Vol. I for 1899, page 1089).

Dr. J. G. Smith of Hanwell, London, W, England reports on twelve cases of epileptic insanity treated by means of Strontium Bromide in which he desires to direct the "attention to a few points in connection with the action of this drug and to compare the results obtained by its use with those obtained by the use of bromide of potassium in the same cases over a corresponding period." He concludes:

"It would seem, therefore, that whilst bromide of strontium is in some cases apparently of greater value than bromide of potassium in controlling epileptic seizures, yet on account of the more rapid action of the latter and its more lasting effect, the smaller dose required, and, lastly, its cheapness, bromide of potassium must be regarded as the more generally useful drug in the treatment of epilepsy." (London *Lancet*, Vol. II for 1899, page 411). This Note of

Dr. Smith's called out a reply from Dr. Roche in which he states:

"I have read with much interest Dr. J. G. Smith's report on the use of bromide of strontium in 12 cases of epileptic insanity compared with that of the bromide of potassium in the same cases. As I have used the strontium salt for some years in a considerable number of cases of epilepsy with marked success, perhaps I may be permitted to make a few remarks upon Dr. Smith's conclusions. I am sure he will agree with me that 12 cases are far too few to base any reliable conclusions upon, but accepting the data for what they are worth, his results may be summarised as follows: (1) That the fits under the strontium were somewhat less frequent and of a milder type and the rash was much less marked; and (2) that the potassium salt required a smaller dose, the effect seemed to be more rapid and more lasting, judged only, however, by the necessity of increasing the dose of the strontium. So that in these series of cases the attacks were less, and milder, under the strontium.

Surely, therefore, his ultimate conclusion "that the bromide of potassium must be regarded as the more generally useful drug in the treatment of epilepsy," is not warranted by his facts. There is, however, one more important advantage that the strontium salt has over the potassium that Dr. Smith has not referred to—viz., the strontium salt does not produce that marked depression which the potassium does so frequently when taken for some time. In a medicine that has to be continued for years this is a most important point. I have met with more than one case of epilepsy where the patients have assured me that they would rather have the fits than suffer from the depression which is produced by the bromide of potassium. My own experience of the strontium salt as compared with the potassium is distinctly in favour of the former. Most of my patients had previously been treated with the potassium

and certainly in diminishing the number of attacks and in no small number preventing their recurrence, in the absence of depression, the strontium salt has given me remarkably successful results.

I hope Dr. Smith will continue his interesting investigation." (London *Lancet*, Vol. II for 1899, page 512).

The Lactate of Strontium has been experimented with by Dr. Sz. Bronowski of Warsaw, Russia upon animals. He finds that it produces a general lowering of the blood pressure. He then tried it clinically, producing diuresis in the majority of his cases and a diminution of the amount of albumin in the urine. He therefore reasons that it may be found of value in the treatment of those cases of renal disease which have not advanced too far. (*Wien. Med. Presse*, Vol. XL, page 178). The above results have been verified by others.

Preference is given by some observers to the use of Strontium Salicylate in the treatment of acute rheumatism as being less irritating to the alimentary tract than sodium salicylate and as not producing salicylism.

Sulphonal (Di-Ethyl-Sulphon-Di-Methyl-Methane) continues to be as prominent an agent as heretofore. There appears to be little diminution in the number of cases of poisoning from this agent. For the use of those who care to study further the means of at least limiting the number of such cases, it may be well to simply record here the most prominent cases reported.

Mr. D. Richmond of Rochdale, England reports a case of poisoning. (*Brit. Med. Journ.*, Vol. II for 1898, page 1337).

Dr. Lovell Gulland contributed a paper on Sulphonal poisoning to the Edinburgh Medico-Chirurgical Society at its meeting on December 7th last. His experience would show that this agent should be used with much greater caution than appears to be usual at this time. (London *Lancet*, Vol. II for 1898, page 1638).

Dr. Fred. Tresilian of Enfield, London, N., England re-

ports a case of acute poisoning in which he calls attention to the fact that unfortunately many cases of toxic symptoms, some of which proved fatal, have been recorded, chiefly from asylums, and cases in which the drug had been administered frequently or continuously for weeks or months. Instances of toxic effects from comparatively small doses are much less frequent. He then relates the details of his acute case and concludes:

"Such a serious condition after 35 gr. of sulphonal, given in divided doses of 20 and 15 gr. at an interval of twenty-four hours, shows decided idiosyncrasy towards its action. It also shows that this is not a safe drug for people to keep in their houses and dose themselves with, and it also makes one feel that in this, as in most synthetic remedies, idiosyncrasy is to be remembered, and comparatively small and safe doses given at first." (*Brit. Med. Journ.*, Vol. I for 1899, page 209).

This agent has recently been employed in the treatment of chorea. Dr. J. Howe Adams of Philadelphia, Pa. contributes a paper on "The Successful Treatment of Chorea with Trional and Sulphonal." He had previously obtained some unsatisfactory results when using solution of potassium arsenite. From his present experience he would place either of these agents as not superior to or equal to but next to the arsenic preparation in obtaining efficient results. (*Archives of Pediatrics*, Vol. XVI, page 351).

Tannalbin (a compound of Tannin and Albumin) is still largely used as a valuable agent in the treatment of infantile diarrhea in both the subacute and chronic forms.

Among the many observers one, Dr. Olimpio Cozzolino, an Italian practitioner, may be mentioned. This one observer is cited here to simply bring out one point. It will be noted that he with most others begins the treatment with castor oil, and therefore may it not be very justly inferred that a large proportion of the credit of checking such a diarrhea may be attributed to the well-known ac-

tivity of this oil in not only quickly disposing of any irritant matter present in the alimentary tract, but on account of its soothing properties after such disposition. (*Gaz. degli Osped. e delle Cliniche.*, Vol. XIX, page 1447).

Tannocol is the name given to a new combination of equal parts of tannin and gelatin. It is offered in the form of a grayish-white, odorless and tasteless powder, quite insoluble in water and acids. It is therefore of value in being only decomposed when it has passed beyond the gastric secretions, producing its characteristic astringent effects where required. The dose recommended for adults is 1 gramme (15.4 grains), that for children 500 milligrammes (7.7 grains) given several times a day.

Dr. Rosenheim of Berlin, Germany has written on this agent. (*Berlin. klin. Wochensch.*, Vol. XXXVI, page 486).

Tannoform (the condensation product of Tannin and Formaldehyde) continues to be kept before the medical profession chiefly by the manufacturers, although, from the clinical observations reported, it does not appear to fill any special want. It is another of those intestinal astringent antiseptics which is supposed to split up only after reaching the intestinal tract. It has however more recently been recommended to be used externally in cases of excessive or offensive sweating, and in suppurations, to be dusted on in the form of a powder.

The dermatologists are also making use of it, and from some quarters reports are made of a large number of cases of various cutaneous affections having been treated successfully.

Dr. Karl Ullmann of Vienna, Austria has already reported 154 cases in which the powder and an ointment were employed beneficially in various skin affections. (*Centralbl. für die gesammte Therap.*, Vol., XVII, page 257.)

Another such observer is Dr. J. Arnold Goldmann of Vienna, Austria who has written an article on "The Therapeutic Value of Tannoform." He reports excellent

results in weeping and pruriginous eczemas and other skin affections. (*Wien. Med. Presse*, Vol. XL, page 342).

Tannopin (a condensation product of Tannin and Urotropin)—87 per cent. of Tannin and 13 per cent. of Urotropin—chemically known as Hexa-Methylene-Tetra-mine-Tannin, has been little commented upon during the past year. The only prominent observer who has reported is Dr. Carl Frohlich in an article entitled "Tannopin, a New Remedy for Diarrhea." He has observed nothing new concerning it but simply records his decision as to its being of value.

Terebene (produced by the action of strong sulphuric acid on Oil of Turpentine) has not been directly commented upon during the past year.

Theobromin (the chief base found in the seeds of *Theobroma Cacao*), although considerably used by practitioners, has not been specially commented upon in the current medical literature of the past year.

Thiocol is the name given to a comparatively new compound, the full name of which is Potassium Sulpho-Guaiacolate, containing 60 per cent. of Guaiacol. It is offered in the form of a colorless crystalline powder with the characteristic odor of Guaiacol but not nearly so pronounced—readily soluble in water. This latter is one of the properties which recommend it as preferable to most of the other guaiacol compounds. Naturally its principal use is in the treatment of pulmonary tuberculosis, and its claims for selection are that it does not irritate the mucous membrane and that it is far more readily assimilated than other guaiacol compounds.

Dr. Schwarz of Neustadt, Austria, is one of the prominent observers in the use of this article, giving it in varying doses up to a maximum of 14.5 grammes (about 225 grains) daily. (*Gaz. Med. Lombarda*, Vol. LVII, page 275.)

Dr. G. Rossbach of Berne, Switzerland, is another observer who has followed up experiments on animals with

this new compound and has used as strong an aqueous solution as 20 per cent. hypodermically without producing any local irritation. (*Therap. Monats.*, Vol. XIII, page 96).

Dr. Otto Marcus of Stuttgart, Germany, has employed this agent in the treatment of thirty cases of pulmonary tuberculosis, reporting that its ready administration and its freedom from any ill-effects recommend it strongly. (*Med. Corresp.-Blatt des Württ. ärztl. Landesv.*, Vol. LXIX, page 17).

An Italian physician, Prof. Luigi Maramaldi, is another observer who has used this agent in the treatment of pulmonary tuberculosis. He has found it of value even in advanced cases. His dose varied from 1 to 3 grammes (15.4 to 46.3 grains) each day. He advises not to exceed the larger dose as it apparently cannot be tolerated. He appears to be quite enthusiastic over this agent. (*The Therapist*, Vol. IX, page 122).

Drs. E. de Renzi and G. Boeri of Naples, Italy, report on its curative effects. They are evidently anxious to press its claims for they draw conclusions which, to say the least, are rather over-straining the facts in some respects. (*Deut. Med. Wochens.*, Vol. XXV, page 521).

Thiol (synthetic Ichthyol) has now been used in some quarters quite continuously for several years, and its advantages over Ichthyol of being odorless, cheap and even more efficacious are constantly being pointed out. It is found to act as an efficient analgesic when applied externally even where the deep tissues are involved. An increased number of cases of contusions, abscesses, acute articular rheumatism, neuritis, myositis and other affections are reported where this agent has been of much value.

Dr. Walter A. Wells of Washington, D. C., has found it of value in nose and throat practice, and in writing concerning it states that he has "found it exempt from all irritating or injurious properties, even though used in the full strength. It is most valuable in gouty or rheumatic sore

throat, a fact to be expected on account of its large proportion of sulphur. On the other hand, this is suggestive in connection with theory of the relationship of the skin and nose—since affections of both are generally associated with the gouty diathesis." (*Phila. Med. Journ.*, Vol. 3, page 845).

Thiosinamin (Allyl-Sulpho-Carbamide) has not been commented upon any more frequently during the past year than in the previous one. Dr. Sinclair Tousey of New York city was then continuing his observations and contributed an article on "A Further Study of its use in the Treatment of Keloid, 'Inoperable Tumors,' and Cicatricial Conditions, Including Deafness." He undoubtedly is still observing, but has not made any further report.

Dr. Hans von Hebra of Vienna, Austria, has been making use of this agent in the treatment of sclerodermia. He presented three cases at a meeting of the Vienna Dermatological Society on January 11th last in which he had used hypodermatic injections of a 15 per cent. alcoholic solution every second day, introduced in the interscapular region. The first and second patients received twenty-four injections when the normal condition of the skin returned. In the third patient improvement was very evident after the fourth injection. (*Archiv. für Dermat. und Syph.*, Vol. XLVIII, page 120).

Thymoform, the condensation product of Thymol and Formaldehyde, has not been commented upon in the current medical literature of the past year.

Thymol (Propyl-Meta-Cresol)—official—*is still extensively used, but little direct comment is found upon it. Its combinations with other agents are very numerous. Only two comparatively recent ones may be mentioned here. Combined with lime water and linseed oil, it is recommended as an application of some value in the treatment of burns, especially in children.*

Dr. Carron de la Carrière of France recommends the following formula as a tooth wash for children:

Thymol	50.0	grammes (771.6 grains)
Benzoic Acid	5.0	" (77.2 ")
Oil of Peppermint	2.5	" (38.5 ")
Oil of Star Anise	2.0	" (30.9 ")
Tincture of Cochineal	6.0	" (92.6 ")
Alcohol (80°)	230.0	" (about 8 ounces)

To a glass of water add sufficient of this mixture to produce cloudiness and cleanse the teeth with this cloudy mixture every morning. He recommends its use in children over two years old only, and suggests the use of a wad of cotton as a means of applying it. (*Gaz. hebdom. de Méd. et de Chirurg.*, Vol. 46, page following 444).

Thyroid Extract (Thyro-Iodin) still retains a very prominent place in the attention of practitioners throughout the medical world. It has been tried in almost every affection where there was any rational reason for its employment. Some of the applications have not been made on strictly scientific grounds but were made, it would seem, on the principle that if the usual agents do not succeed, try everything to be thought of. Therefore it is natural to find that in many of such cases little beneficial effect followed.

A specially prepared product by a patented process has been called "Thyroglandin." It is professed to contain the active principle of the fresh gland and to be four times the strength. It is offered in the form of a brownish powder, similar in appearance to dried beef meal and with a like odor.

The Paris Academy of Medicine has recently received a report from the committee they appointed to study these Thyroid products. It reports that in whatever form they are presented they are poisonous, and therefore should be classed among the poisons to be prescribed only by a physician.

At a meeting of the Paris Surgical Society on November 30th last, Dr. Quénu read a paper on the use of Thyro-Iodin in the treatment of fractures where union is delayed. He presented two cases which were treated with this agent during the whole time of healing of the fracture which united well within the customary time.

Dr. Paul Reclus also presented a case at the same meeting in which he obtained satisfactory results by using this agent.

Dr. Lambret of Lille, France, reports having used this agent for some years past, but described one particular case of fractured limb at the meeting of the Central Medical Society of the North on May 12th last. He gave 600 milligrammes (about 9.5 grains) of Thyro-Iodin each day, and the patient was able to walk on the limb on the seventeenth day. (*Le Nord Médicale*, Vol. VI, page 128).

Dr. William Murrell of Dublin, Ireland, delivered a "Clinical Lecture on a Case of Diabetes Mellitis treated with Thyroid Gland." He related a case which was attributed to a nervous disturbance, giving rise to vaso-motor paralysis. The reduction of the amount of sugar was immediate, even without restriction of the diet. He found that its action is transitory, and therefore the treatment must be kept up. He concludes that this form of treatment will be found of most value in those cases of glycosuria which occur in elderly persons in whom obesity is a prominent factor. (*The Medical Press and Circular of Dublin*, Vol. II for 1898, page 611).

An increasing amount of experimentation has been going on with preparations of Thyroid Extract in the treatment of obesity, and the evidence in its favor from some quarters seems to be quite convincing.

Dr. Nicolai Schiödte of Copenhagen, Denmark, has written an article "On the Use of Thyro-Iodin in the Treatment of Obesity." His observations covered a period of 3½ months and very evident decrease of body-weight was

demonstrated. There, however, appeared to be a considerable loss of nitrogen as well, showing a diminution in the body-proteids. When large doses were used, the patient's general condition was not at all satisfactory and the quantity had to be reduced, resulting in a return of comparative comfort. This systemic depression at times produced collapse and often suddenly, and care must be exercised. (*Archiv für Verdauungs-Krankheiten*, Vol. 5, page 1).

Dr. Wilhelm Ebstein of Göttingen, Prussia, has also written a paper with almost the same title as above, in which he opposes its use. He gives the details of seven cases. To substantiate his opinion he states that persons afflicted with a superfluous amount of fat must rely on dietetic treatment and a rational mode of living. He deplores the tendency of not only physicians but the laity in hopefully looking forward to efficient treatment from any so-called "anti-fat cure." Much harm has been done (which has been pointed out by many observers) in following the promiscuous use of this Extract by the laity. It should only be administered under a physician's prescription. He concludes that the Thyroid treatment of obesity is not only unsatisfactory on general principles but is irrational, and that other reasonable methods of treating it are available. (*Deut. Med. Wochensch.*, Vol. XXV, page 1, and concluded on page 23).

Dr. Wm. M. Polk of New York city, has written on "The Clinical Effect of Thyroid Extract upon Fibroid Tumors of the Uterus." (*Med. News*, Vol. LXXIV, page 33).

Dr. Starling Loving of Columbus, Ohio, reports on his "Successful Use of Thyroid Extract in the Treatment of a Cerebral Neoplasm." (*Phila. Monthly Medical Journ.*, Vol. I, page 359).

Drs. Wm. Mabon and Warren L. Babcock of the St. Lawrence State Hospital, Ogdensburg, N. Y., have published "A Review of the Results Obtained in the Treatment of one thousand thirty-two Collected Cases of Insanity." They

have collected statistics from various hospitals, but give a tabulated statement of sixty-one cases treated in the hospital with which they are directly connected. (*Amer. Journ. of Insanity*, Vol. LVI, page 257).

The subject of the abuse of all Thyroid preparations was brought before the Paris Academy of Medicine several months ago for the purpose of restricting the sale of them to the public. Attention was called to the fact that druggists sell them to any one who asks for them. They are even largely advertised in the lay press of France.

Dr. Byrom Bramwell of Edinburgh, Scotland, has published a "Note on the Production of Symptoms of Thyroidism in a Child at the Breast by the Administration of Thyroid Extract to the Mother—i. e., Through the Milk." He concludes with the following remarks:

"There can, I think, be no doubt that in this case the administration of thyroid extract to the mother produced symptoms of thyroidism in the child, the thyroid extract being conveyed to the child through the milk. This was noted on three occasions and it is evident that the point—whether thyroid extract given to the mother can produce symptoms of thyroidism in her child at the breast—is not merely of theoretical but of distinct practical importance." (*London Lancet*, Vol. I for 1899, page 762).

Dr. Léon Mabile of Reims, France, calls attention to his successful use of solution of potassium arsenite in doses of from five to fifteen drops daily as a corrigent in Thyroid medication. He has found that it will prevent the tachycardia, the nervous disturbances and the loss of flesh that are often noticed. (*Lyon Médical*, Vol. XC, page 598).

The use of a 1 per cent. solution of formaldehyde has been recommended as a preservative for the preparations of the Thyroid Gland. It is claimed that it does not alter the efficiency of the preparation materially, and does act as a fairly effective preservative.

Toxins (meaning all the morbidic substances produced by living beings) have received little comment in the current medical literature of the past year. The only prominent allusion is that of Dr. C. M. Nicholson of St. Louis, Mo., who reports having treated four cases of inoperable sarcoma by the injection of erysipelas and prodigious Toxins with favorable results. In some other cases he met with no success whatever. (*Amer. Journ. of Surg. and Gyn.*, Vol. XIII, page 10).

Trikresol—the antiseptic mixture of 35 per cent. Ortho-Cresol, 40 per cent. Meta-Cresol and 25 per cent. Para-Cresol—has not been alluded to here for several years, and although it has been used during this time pretty generally it has not been commented upon directly until recently.

Dr. Granville MacGowan of California seems to have verified the statement of previous observers that it is quite a valuable agent in the treatment of alopecia areata. The eight cases he treated were cured within an average time of two months and a half. Naturally a thorough cleansing of the patch was first called for, and this was best obtained with benzine. The Trikresol was then applied without dilution to the scalp, but in a 50 per cent. alcoholic solution to the face. The applications were repeated in from four to ten days. (*Journ. of Cutan. and Genito-Urinary Diseases*, Vol. XVII, page 217).

Trional (Di-Ethyl-Sulphon-Methyl-Ethyl-Methane) continues to be used as a substitute for sulphonal, but if a record of the comments made upon it directly during the past year is to be taken as evidence, it would appear that it has not gained any ground over sulphonal.

One of the prominent observers has been Dr. J. Howe Adams of Philadelphia, Pa., who has reported on "The Successful Treatment of Chorea with Trional and Sulphonal." His report gives the same credit to this agent as to sulphonal, and may be found by referring in these pages to the latter article.

Dr. Habermann of Wismar, Germany, recommends the use of Seltzer Water as the most practical vehicle for the administration of Trional. The advantages are its perfect solution, its agreeable taste, its rapidity of action—producing sleep in about ten minutes, and without ill-effects after waking. (*Gaz. hebdom. de Méd. et de Chirurg.*, Vol. IV, new series, page 419).

Tropon is the name given to a substitute for natural albumin. It is made from two parts of albumin derived from a vegetable source and one part of albumin derived from an animal source. It contains gelatin extractives and about 90 per cent. of pure albumin. It is not a new product but it has received an increased amount of attention during the past year.

Dr. Rudolf Neumann of Würzburg, Bavaria, and Drs. Fröhner and Hoppe of Uchte in the Altmark district of Prussia have made an additional study to that of Prof. D. Finkler, proving it to be a cheap, nourishing and tasteless preparation to add to soups and other articles of food for use in the sick room. It is described as a fine, brownish powder, insoluble in water, perfectly stable and not hygroscopic. It apparently can be taken for a long period of time without disturbing the patient. It is found to be much cheaper than meat. (*Muench. Med. Wochensch.*, Vol. 46, pages 42 and 46).

A further study has been made by Dr. Rudolf Kunz as to "The Chemical Composition of Tropon and Several Tropon Nutrients" and still further by Dr. Igo Kaup on "The Digestibility and Usefulness of Tropon." (*Wien. klin. Wochensch.*, Vol. XII, pages 509 and 511).

Tuberculin (Parataloid) has received quite as much attention during the past year as previously. An increased amount of interest is taken in its action and many valuable results have been obtained.

"The value of tuberculin as a diagnostic agent in the detection of tuberculosis has received striking confirma-

tion by an experiment carried out at Windsor. The herd tested belonged to Her Majesty and consisted of 40 non-pedigree cows, mostly Shorthorns and Jerseys. At a meeting of the Society for the Prevention of Consumption and other Forms of Tuberculosis, held at Marlborough House on Dec. 20th, 1898, H. R. H. the Prince of Wales mentioned that Her Majesty had given permission for 36 cows from her home farm to be destroyed because they had been found to react after testing with tuberculin. Official sanction has now been given to the publication of the full details of the experiment in question. The 40 cows forming the herd were all in good condition and apparently healthy. They were all tested and were under the care of Mr. Allnutt and Mr. Tennant, veterinary surgeons, of Windsor. The tests were carried out on Sept. 16th and 17th, 1897, and the temperatures of the cows were taken on Sept. 14th by Mr. Tennant when with the exception of one cow in which the temperature was 104°F. all the cows had temperatures under 103°. The test was commenced on Sept. 15th, the temperature of each cow being taken just before injection and at the third, sixth, ninth, twelfth, and fifteenth hour afterwards. At least 32 cows appeared to be tuberculous, their temperature rising to 104° or more, five cows appeared to be healthy, and three were doubtful. The whole herd was killed and the carcasses were examined at the Royal Veterinary College. Of 34 animals whose temperature had risen above 104° 33 were found to be tuberculous. The remaining animal was not tuberculous but had a diseased uterus. The rise in this case was sudden and did not occur until after the twelfth hour. Of four cows which did not react three were found to be free from tubercle and the fourth had one small caseous gland in which tubercle bacilli were found. The two remaining cows which were classed as 'doubtful' were both found to be tuberculous. Professor J. McFadyean, from whose paper in the *Journal of Comparative Pathology and Therapeutics* we take these

details, points out that the herd experimented upon might reasonably have been supposed to be free from tuberculosis as the cows were living under the very best conditions. There is only one way of keeping housed cattle free from tuberculosis, says Professor McFadyean, and that is to see that no tuberculous animal is admitted among them. This plan, we are glad to see, has been adopted in the formation of the new dairy herd at Windsor, all animals purchased for it being tested and admitted only when they do not react. It will be seen that a rise after the injection of tuberculin is not proof positive of the existence of tuberculosis, since one cow which reacted had no tubercle but suffered from a diseased uterus. But in a very large proportion of cases a rise was practically pathognomonic." (London *Lancet*, Vol. I for 1899, page 1041).

"Dr. Harold Scurfield, the medical officer of health of Sunderland, read a very sensible paper on April 8th before the members of the Newcastle Farmers' Club. Dr. Scurfield's subject was the question whether the Government should take up the matter of the use of tuberculin in lessening the prevalence of tuberculosis amongst cattle and children and his reply was in the affirmative. He commenced by acquainting his audience with some evidence to show that cow's milk is a cause of tuberculosis in human beings and then went on to show how this danger might be averted. First, the milk may be rendered innocuous by being boiled or sterilised, although, of course, this is a weak policy and it is much better to attack the disease at the fountain head. Secondly, cows may be frequently inspected, but this is not of much use, for a cow may be seriously affected by tuberculosis and yet give no outward signs. Thirdly, there is the tuberculin test which is practically infallible. That this is so was very well shown by the case of Her Majesty's herd of dairy cows at Windsor, the tests in regard to which we published in our issue of April 15th. Dr. Scurfield reminded his audience that it

would be quite worth their while to adopt the use of tuberculin voluntarily, for in process of time they would get a tubercle-free herd. Moreover, people would willingly pay, and are already paying in some cases, increased sums for milk certified to have come from a cow which has been tested and which has not reacted. But the voluntary use of tuberculin can at best be of only limited extent and therefore the State should step in. Dr. Scurfield suggests that the test should only be applied by a duly qualified veterinary surgeon who should be bound under a penalty to brand any reacting animal—"that the tuberculin and the services of a veterinary surgeon to perform the test be offered free of charge to any farmer or breeder who will agree to isolate the sound from the reacting animals, and that compensation be paid for any of the branded reacting animals which on being slaughtered within a reasonable time, say one year, is found to be unfit for food." There are several other suggestions, but we have given the most important so far, but the final one runs shortly as follows: Five years after the former suggestions have become law no compensation for condemned carcasses is to be given; no milk from any tuberculous cow is to be sold; any animal may be tested by the local authorities and if reacting may be sold and fattened for killing without compensation; all cattle are to be sold with an implied warranty that they are free from tuberculosis. Dr. Scurfield's suggestions are apparently sound. Of course, they might not work when put into practice, for even the best scheme on paper sometimes fails, but we should say that they are worth a trial. The late Royal Commission on Tuberculosis, as Dr. Scurfield reminded his hearers, concluded that at present it would not be fair to blame the ordinary agriculturist for sharing in the general ignorance on the subject, but "as soon as the proper treatment and precautions have been formulated it will become his duty as well as his interest to

put himself beyond the risk of loss by confiscation." (London *Lancet*, Vol. I for 1899, page 1108).

"Most large lunatic asylums have a certain amount of farm work carried on in connexion with them and in this way Mr. Frank Perceval, medical superintendent of the Lancashire County Asylum at Whittingham, has had the opportunity of studying the incidence and effects of tuberculosis in milch cows, his statistics commencing in October, 1894. In a recently published report on the subject he says that on an average 84 per cent. of the cows at the farms of the asylum were affected with tuberculosis, and in August, 1897, it was decided that the tuberculin test should be used. The animals which did not react were separated from those which did, the latter being milked as usual and fattened off as soon as possible, but not kept longer than six months. The tuberculin was obtained from Professor McFadyean, Royal Veterinary College, London, and the dose given was from 65 to 70 minims. The number of cows tested was 270, of which 180 reacted, 85 did not react, and five were doubtful. Tuberculous disease was actually found in 175 of the 180 cases which reacted, or 97.2 per cent. Mr. Perceval is of opinion that the tuberculin test is a valuable aid in checking the spread of tuberculous disease in herds of cows inasmuch as it enables a large proportion of the diseased beasts to be isolated, but of course it does not lessen the necessity for keeping the animals under healthy conditions, the great essential being a plentiful supply of pure air. The question is obviously one of much importance in connexion with the milk-supply." (London *Lancet*, Vol. II for 1899, page 356).

"Every scientific investigation bearing upon the subject of tuberculosis in man or animals is of especial interest at the present time on account of the prominent position which this disease occupies in the minds of the medical and veterinary professions and also of the general public. Mr. M'Lauchlan Young, F.R.C.V.S., and Dr. S. H. Walker

have recently tested some 240 cattle with tuberculin, the results being followed out by a careful post-mortem examination in each case. Most of the animals were tested before removal from the farms, but in a few cases the test had to be made in the byres of the slaughter-houses after the cattle had been there for at least 24 hours. As a general rule Mr. Young applied the test and noted the effect on the living animal, whilst Dr. Walker, who was kept in ignorance of these results, conducted the post-mortem examinations. Out of 100 two-year-old bullocks 20 reacted after inoculation and one was suspected on account of a rise of temperature to 103°F. and other symptoms. All these proved to be tuberculous. In two instances (Nos. 19 and 55) there was no temperature reaction, but in each case there was found "a small calcareous tubercle about half the size of a pea in a mesenteric gland." Out of 60 heifers just under two years old six reacted and proved to be tuberculous, whilst in addition four which failed to react were proved to be infected. This was explained in two of the cases by the fact of tuberculin of more than a year old having been used and satisfactory reasons were given in the other two. 77 cows were tested and 42 were found after slaughter to be tuberculous, although only 25 had reacted. Most of them were, however, old cows in which the disease had existed extensively for some time. Out of the three bulls one was tuberculous. In the bullocks and heifers the bronchial and mediastinal glands were affected in 25 cases and the lungs in 15. The pharyngeal glands were diseased in seven and the mesenteric glands in five. In nearly all the cows the bronchial and mediastinal glands and the lungs were affected; the liver was diseased in 13 and the udder in seven. Tuberculous disease of the udder is of the utmost importance on account of its bearing on the milk-supply for human use. The writers of the report say: "We found that almost 10 per cent. of the cows had tuberculous udders and that over 16 per cent. of the tuberculous cows

had tubercle of the udder. It is to be noted that only one of the udder-affected cows could be called a 'piner,' whilst the others were ordinary dairy cows in fair condition. Too much stress cannot be laid upon the last statement as it shows the absolute unreliance to be placed upon a mere examination of dairy cows without the application of the tuberculin test." Of the whole 240 animals 31.7 per cent. were tuberculous. The report concludes with the following emphasized conclusions: "1. Our experience confirms the generally accepted opinion that tuberculin loses its virulency when kept for any length of time. 2. When used with care and under proper conditions tuberculin is a reliable diagnostic of tuberculosis in cattle, except (a) when tubercular lesion is minute, or (b) when the disease has become generalized, especially in the case of aged and emaciated animals. 3. Tuberculous udder occurs more frequently than is generally believed to be the case." (London *Lancet*, Vol. II for 1899, page 1180).

The following editorial by the Editor of the *Philadelphia Medical Journal* (Vol. 4, page 449) is pertinent right here:

"The quickness with which commercial cunning catches up scientific methods, and uses them not only against science, but against society (for which science exists), is shown by a fact that has recently come to light. It is known that after an injection with tuberculin cattle will not show a second fever-reaction within a period of several weeks. In order to deceive inspectors and buyers, many breeders and dealers have been practising the injections weekly prior to those of the buyers and inspectors, so that there is no fever-reaction when the real test should show the existence in the animals of tuberculosis. This is really more infamous than the purchase of testimonials by bribery from supposed reputable bacteriologists and experts, or the downright forgery of such testimonials—things that have more than once been proved. The law should make short shrift for such scoundrels. Another iniquity recently came

to light by means of a blunder which brought quick and deserved retribution, but which also suggests an inquiry as to the possible number of instances in which bad results are hidden by a better technic. At a great agricultural fair a large number of valuable Jersey cows suddenly died while in the exhibition grounds. Investigation proved that to give a false appearance of "large bags," milk in quantity had been injected into the glands. The maladroits had failed to sterilize the milk, and the cows succumbed to septicemia."

"A Contribution to the Study of the Infectiousness of Milk from Tuberculous Cows and as to the Value of the Tuberculin-Test" has been presented to the Veterinary High School in Berlin, Germany by Drs. Lydia Rabinowitsch and Walter Kempner. (*Zeitschr. für Hyg. und Infectiönskr.*, Vol. XXX, page 251). Those who desire to read a translation in English will find it in the *Journ. of Compar. Medicine and Veterinary Archives* (Vol. XX, page 572).

Dr. Max Beck of Berlin, Germany has written on "The Diagnostic Value of Koch's Tuberculin", based on his results in the Berlin Institute for Infectious Diseases. He gives the details of some 2137 cases which have been injected. He excludes 295 cases of undoubted pulmonary tuberculosis in which injections were made during the early part of the period of six years covered by these statistics. In 1154 or 54 per cent. the diagnosis was made by means of the Tuberculin injections. He believes that Tuberculin is the most delicate means of recognizing tuberculosis. He states that whenever a patient is found to react, a tuberculous focus even though it may be small must surely be assumed as being located somewhere, either in the bronchial glands, lungs or other organs. Such foci if small may undoubtedly heal, but the affection often spreads. Thus he emphasizes the importance of the early recognition of the disease. (*Deut. Med. Wochensch.*, Vol. XXV, page 137).

Dr. Edward O. Otis of Boston, Mass. contributed "Notes on the Tuberculin Test" before the American Climatological Association at its meeting held in New York City in May last, and about the same time repeated such under the head of "Value of the Tuberculin Test in the Diagnosis of Tuberculosis" at the meeting of the American Medical Association held at Columbus, Ohio in June last. (*Journ. Amer. Med. Assoc.*, Vol. XXXIII, page 1074).

Dr. Paul Friedrich Krause of Vietz, Prussia reports his results in 41 cases with "Koch's Treatment of Tuberculosis," 30 of which were uncomplicated cases. His results were so favorable that others questioned his diagnosis in many of the cases. He classes the old Tuberculin as being safer than the new Tuberculin TR. (*Deut. Med. Wochensch.*, Vol. XXV, page 340).

The new Tuberculin TR. is still receiving some attention, although meeting with considerable opposition from many quarters.

It has appeared that up to this time the experimental stage has not been sufficiently extended to confirm its usefulness as an established agent. Dr. H. Stroebe has written a book upon "The Action of the New Tuberculin TR. upon the Tissues and Tubercle Bacilli" and in a review of his book published in the *British Medical Journal* (Vol. I for 1899, page 25) it is stated that "it is impossible to read Dr. Stroebe's excellent work without feeling how far we still are from an efficient bacteriological treatment of tuberculosis. The very threshold of the inquiry has hardly been crossed if it is still impossible to immunise animals with certainty against this dreaded disease. The great value of Dr. Stroebe's well-planned and carefully carried out investigation lies in the fact that the exact position of the subject is clearly set forth by it."

Dr. A. Mansfield Holmes of Denver, Colo., whose clinical study with the Antiphthisic Serum TR. (Fisch) was alluded to here last year, now makes a further report on its use.

He states that the present report "has been prepared with the idea of giving special attention to the following points:

First, duration of the disease at the beginning of the serum treatment;

Second, length of time spent in Colorado previous to beginning the serum treatment;

Third, condition at beginning of treatment;

Fourth, length of time under treatment;

Fifth, condition at close of treatment;

Sixth, time since close of treatment;

Seventh, present condition."

He then gives a clinical history of a series of twelve cases under what he calls "Class I. 'Pretuberculous' and Early-Stage Cases without Bacilli." Then later he reports on "Class II. Early-Stage Cases with Bacilli" under which he enumerates seven cases; "Class III. Chronic Cases of Long Standing" with four cases; "Class IV. Acute Cases with 'Mixed Infection'" with eight cases; lastly he summarizes all his cases and concludes with the statement: "In presenting this report I have endeavored to give the unfavorable as well as the favorable points observed—the disappointments as well as the hopes inspired. After sixteen months of constant study of the effects of the 'antiphthisic serum, T.R.' I am impressed with the belief that serum therapy is the coming therapy for tuberculosis." He adds a note giving a brief statement of the condition of four of his patients up to date (April 1st, 1899). (*N. Y. Med. Journ.*, Vol. LXIX, pages 405, 440 and 482).

Drs. E. L. Trudeau and E. R. Baldwin of Saranac Lake, N. Y. have continued their experiments since 1891 on the antitoxic power of serums in Tuberculin poisoning. They now report their still further results:

I. Fatal doses of tuberculin in sound animals.

II. Fatal doses in tuberculous animals.

III. Small doses in tuberculous animals to show the effect: (a) of the temperature; (b) of the local reaction.

An explanatory note states: "Under the term 'tuberculin' we here include the various extracts of tubercle bacilli, but usually mean the original Koch fluid." They are evidently undertaking their work very systematically and thoroughly. They give the following *Résumé*: "The results of our four years' work in experiments upon four sheep, three asses, twelve fowls, eighteen rabbits, and four hundred and fifty guinea-pigs are to be found in the following summary:

1. A sheep was injected intravenously with killed *thymus* cultures. The result was so unsatisfactory that the serum-tests were not conclusive.

2. Chickens were inoculated intraperitoneally with mammalian tuberculosis. The serum revealed no germicidal or inhibitive action on the tubercle bacilli, nor favorable influence on the course of the disease in guinea-pigs.

3. A sheep was injected with tuberculin. The serum was wanting in germicidal, antitoxic, or curative effect so far as tested.

4. A sheep was inoculated intravenously with non-virulent cultures. Cachexia followed, and the serum was therefore not used.

5. An ass was inoculated as in (4.); it died from pulmonary embolus. The serum was not bactericidal to tubercle bacilli.

6. An ass was inoculated with virulent tubercle bacilli and treated with tuberculin. The serum showed no germicidal nor curative, but possibly some antitoxic effect.

7. An ass was inoculated with non-virulent tubercle bacilli and treated with various extracts of tubercle bacilli and dead bacilli. The serum showed no activity.

8. Rabbits were inoculated with non-virulent and virulent tubercle bacilli, and recovered. Their serum possibly conferred some protection in tuberculin poisoning, and possibly prolonged the lives of treated guinea-pigs.

With a full appreciation of the uncertainty of correct conclusions from tests of the serums other than our own

product which were tried with tuberculin, we may state that only one indicated antitoxic power. This was obtained from a horse inoculated with non-virulent cultures.

That the apparent protection against fatal tuberculin poisoning occasionally seen was not necessarily due to the specific antitoxic power of the serums is made probable by the similar effects of physiological salt solution seen at times.

None of the serums appeared to prevent local or general reaction from small doses of tuberculin, nor to influence the temperature of tuberculous animals.

Disappointing as these results may seem, the writers feel that, in the light of recent contributions made by Ehrlich, Wasserman and Behring to our knowledge of the mechanism of immunity and antitoxin production in the body, the outlook for an efficient tuberculosis antitoxin is by no means a hopeless one." The article closes with a very full bibliography. (*Amer. Journ. Med. Sciences*, Vol. CXVI, page 692 and Vol. CXVII, page 56).

Dr. Michele Brocchieri of the University of Rome, Italy has made a critical clinical study of Tuberculin TR. in the treatment of lupus. His conclusions are: that no marked disturbances follow the injections; it appears to resolve the infiltrations; a year seems to be necessary for the full observation of what can be accomplished, and lastly it appears to confine the diffusions in a manner that would seem as if the surrounding parts were immunised. He succeeded very well with Tuberculin TR. but failed with the old Tuberculin. (*Il Policlinico*, Vol. V, page 489).

Drs. Hermann Napp and Carl Grouven of Bonn, Rhenish Prussia report the results of their extensive trials with the new Tuberculin TR. in the treatment of skin diseases. They give the details of some 39 cases, and conclude that even though it does not produce a permanent cure, it still has such a marked favorable influence in attacking the tubercular process and produces so little disturbance in the

general conditions. (*Archiv. für Dermat. und Syph.*, Vol. XLVI, page 399).

Prof. E. Maragliano of Genoa, Italy has made up what he calls an aqueous Tuberculin, by separating the bacilli by filtration from a bouillon culture and adding an amount of water equal to the bouillon taken; heating that solution for 48 hours on a water bath at a temperature from 90° to 95°C. (194° to 203°F.) and adding water to make up the loss by evaporation. After this prolonged boiling the whole is evaporated down to about $\frac{1}{10}$ of its original volume, producing a residue which is called the aqueous Tuberculin. He claims that this aqueous article does not produce abscesses at the point of injection, which is too apt to occur with the glycerin extract. His observations are of interest to those who are following up this subject. (*Berlin. klin. Wochensch.*, Vol. XXXVI, page 385).

Urosin is the name given to a new salt formed by the combination of Lithium with Quinic Acid. As is well known, quinic acid is the chief organic acid of cinchona bark. The object of course to be attained in associating quinic acid with lithium is to prevent the formation of uric acid. It is claimed to be of value in the treatment of gout. It occurs in the form of light, colorless crystals with a pleasant taste.

Dr. J. Weiss of Basel, Switzerland brings forth this new method for treating uric acid diathesis. He claims that the uric acid is eliminated in the form of hippuric acid, acting simply as an efficient diuretic. The name Urosin has apparently been given to the tablet form, which is made up as follows:

Quinic Acid	0.50	gramme (7.7 grains)
Lithium Citrate	0.15	" (2.5 ")
White Sugar	0.30	" (5.0 ")

From 6 to 10 or more tablets are given each day. (*Berlin. klin. Wochensch.*, Vol. XXXVI, page 297).

Urotropin (Hexa-Methylene-Tetramin)—formed by the union of Formalin and Ammonia—has received considerably more attention in the current literature of the past year than in the previous one.

Particular attention appears to have been given to its use in the treatment of cystitis.

Dr. T. Gordon Kelly of Desford, Leicester, England has used this agent for the particular purpose of rendering the urine antiseptic. Many agents were tried with varying success, but never with complete satisfaction until Urotropin was used. He particularly alludes to one case which was almost given up as being beyond medical assistance, but was so completely relieved by the use of this agent that he has become quite enthusiastic over its use, considering it quite an ideal antiseptic. (*The Therapist* (London) Vol. VIII, page 229).

Dr. S. Ehrmann of Vienna, Austria has made use of this agent in nine cases of peri-urethral abscess and cystitis after gonorrhea; in five cases of bacteriuria following chronic gonorrhea, and in chronic posterior urethritis. In this latter affection it showed marked beneficial action. In all, Dr. Ehrmann's observations comprise some thirty-two cases, and he concludes that Urotropin is one of the few of the more recent agents which he would expect to retain a permanent place in therapeutics. (*Wien. Medizin. Presse*, Vol. XL, page 1050).

Dr. F. Warburg of Cologne, Germany in writing "On Bacteriuria" reports that after having used salol without any beneficial results, he resorted to Urotropin, when the urine immediately cleared up. (*Muench. Med. Wochensch.*, Vol. 46, page 955).

Dr. T. K. Holmes of Chatham, Ontario, Canada reports his success in one case of cystitis resulting from enlarged prostate in which tying the vas deferens and washing out the bladder with boric acid solution failed to bring relief. (*Dominion Med. Monthly*, Vol. XI, page 186).

Dr. Otto Heubner of Berlin, Germany has been making use of this agent in the treatment of cystitis in children whether of a simple or gonorrheal character. He advises its use as a sterilizing agent as a preparatory treatment in every case where an operation upon the urinary organs is to be attempted. (*Die Therap. der Gegenwart.*, Vol. I, new series, page 63).

Dr. Mark Wyman Richardson of Boston, Mass. has made a very careful study and now reports "On the Value of Urotropin as a Urinary Antiseptic, with Especial Reference to its Use in Typhoid Fever." He states that he is still working in the Pathological Laboratory of the Massachusetts General Hospital, and hopes to give a detailed account in some later paper of his experience with this agent in conditions other than typhoid fever, as his results in the latter disease are limited, but they agree with those obtained by others. (*Journ. Experimental Medicine*, Volume Fourth, page 19).

Ursal is the name given to a combination of urea with salicylic acid, and is recommended in the treatment of gout and rheumatism. It has been stated that urea has proved to be such a useful diuretic that this combination would be of special service, and therefore it is lauded as an efficient substitute for sodium salicylate and the other older preparations. The dose recommended is the same as sodium salicylate. Nothing in the way of clinical reports has yet appeared in the current literature.

Validol (a mixture of Valerianic Acid and Menthol), introduced as a stomachic and stimulant, has not been heard of in the current medical literature of the past year.

Warburg's Tincture has so well established its reputation in cases where no other remedy or combination of agents seem to succeed, that a little more attention seems to be called for in the way of accurate determination as to the active ingredients in this heterogeneous combination of medicaments. There has recently been published another

statement as to the correct formula used by Dr. Carl Warburg and it may be interesting to quote it here:

Aloes Socotrine	1 lb.
Rad. Rhei	4 ozs.
Sem. Angelicae	4 "
Confect. Damocratis	4 "
Rad. Inulae	2 "
Croci Sativi	2 "
Sem. Foeniculi	2 "
Cretae Prep	2 "
Rad. Gentianae	1 "
Rad. Zedoariae	1 "
Bacc. Cubebae	1 "
Myrrhae	1 "
Camphorae	1 "
Boleti Laricis	1 "
Spts. Tenuioris	25 pints.

This mixture is to be digested 12 hours on a water bath, strained and 10 ounces of quinine sulphate added, continuing the heat until the quinine sulphate dissolves; when cold, filter. The dose is 1 drachm to $\frac{1}{2}$ an ounce. (*Chem. and Drug.*, Vol. LIV, page 705).

Surely all these ingredients are not necessary, especially when it is realized how small a quantity is present of some of those agents in any definite dose that might be taken. Some experiments have therefore been undertaken which have now extended over some years for the purpose of attempting to eliminate what might be considered the useless ingredients. All observers are aware of the fact that quinine has its individual effects and proper uses. Also that cinchona bark as a whole has its appropriate usefulness aside from the quinine in its constitution. Therefore tincture of cinchona compound has long held its place as a useful preparation. However, since the last revision of the United States Pharmacopoeia it has not proved as efficient

as heretofore, and an increasing number of observers claim that the elimination at that time of the saffron was a mistake as it had its proper function in the older preparation. The old tincture of cinchona compound of 1860 was the original Huxham's Tincture and proved its value in those days, but saffron increasing in value and becoming more expensive, the temptation to discard it was too strong and it was struck out at the last revision. If now the original Huxham's Tincture be combined with Tincture of Aloes and Myrrh in proper proportions, it would appear from clinical experience of some two years past, that the efficiency of Warburg's Tincture was actually obtained. It has long been known that myrrh had its appropriate place in the treatment of malaria, and many writers have claimed its right for consideration, but these older preparations appear to be gradually discarded for the newer and more largely advertised agents of the present day—at times without due consideration of the long effective service of the older ones. It surely does seem that an attempt should be made to obtain an efficient substitute for the composite Warburg preparation which is made up of such a variety of ingredients in such small relative proportions, when the dose is considered, that the necessity of many of them is strongly questioned.

Weights and Measures (Metric System) have received fully as much, if not more, attention during the past year than in the previous one. The medical as well as the pharmaceutical profession of Great Britain is pressing this matter more energetically and much discussion is being had over the ultimate adoption of the more modern system.

A book has appeared in London written by Mr. H. O. Arnold Forster on "The Coming of the Kilogram; or, the Battle of the Standards" in which the metric system is very fully explained and compared with the British system, which latter it shows up to great disadvantage. Those who still waver on this question but who are desirous of

learning and advancing with the times, should surely make an effort to read Mr. Forster's book.

"A RATHER amusing controversy has broken out in the *Times* on that well-worn subject, the merits and demerits of the metric system. It is amusing, partly owing to the vehemence of the controversialists, and partly owing to the manner in which certain writers have revealed how they have only now discovered—apparently between the publication of one letter and the inditing of the next—that the contemned duodecimal system presents certain practical advantages. The mere fact that the system is in such general use would make this highly probable *a priori*, for it must have obvious advantages, otherwise mankind would not so generally have set aside the decimal system suggested to him by his ten fingers which are used for counting by all savage races. As a matter of fact, anyone who will take the trouble to look into the subject must see that for many practical purposes, for small transactions and for the mental arithmetic which they involve, the duodecimal system is far more convenient. This is appreciated alike by the market woman and the stockjobber; 12 is divisible without remainder by 2, 3, 4, 6, and gives a convenient fraction when divided by 8, whereas 10 is divisible without remainder by 5 and 2 only, though it gives a convenient fraction with 4. For all calculations on paper the decimal system is far more convenient and speedy than the duodecimal. But the main argument in favour of its adoption in the United Kingdom is that the metric has already been adopted in every other country in Europe. Our adherence to our own system is said to impede commercial transactions; it certainly causes much inconvenience in scientific work. The inconvenience is, indeed, so generally recognized that the metric system is now used in almost all scientific textbooks, and by most scientific writers. The sooner this becomes universal the better. While it may be admitted that the metric system is not an ideal system, yet it has been proved to

work well in practice; on the whole it saves a great deal of time, and the existence of the two systems side by side in international scientific literature causes confusion, and involves much useless labour in conversion." (*Brit. Med. Journ.*, Vol. I for 1899, page 867).

An attempt is now being made by some of the larger commercial bodies of England to urge the Government to make the metric system compulsory in the United Kingdom on some definite date which need not necessarily be in the very near future, but some fixed date which all can prepare for in the manufacture of their preparations.

In this country the subject of the metric system is still being widely discussed and resolutions are being passed in the various societies and associations, to not only encourage but insist upon some definite steps being taken to at least see that the rising generation of students become familiar with it. Mr. H. M. Whelpley of St. Louis, Mo. is one of the most enthusiastic writers and advocates of its rapid introduction.

It apparently will be much easier to convince the pharmacist of the usefulness and convenience of this new system than the physician, especially the older members of the profession, but practically the greatest hope is to be expected from the students in both professions. Dr. E. H. Bartley of Brooklyn has written an article on "The Metric System in Prescriptions", in which he advocates its more universal application, and points out that the particular objection made to its use appears to relate to the difficulty in calculating the dose. He suggests a simple rule to obviate this difficulty. He says "a drachm of a two ounce mixture will contain as many grains or minims of any ingredient, as there are grammes or Cc. of that ingredient in the whole two ounces." He claims that if this rule be kept in mind the calculation of doses becomes easy and simple. (*Brooklyn Med. Journ.*, Vol. XIII, page 558).

A correspondent writes from Cairo, Egypt in regard to

the adoption of the metric system for the writing of prescriptions, and states: "you may be interested to know that here in Cairo there are about 150 doctors of various nationalities—viz., English, French, Italian, German, Greek, Swiss, Austrian, Polish, Native Egyptian, Syrian, Turkish.

All of them (with the exception of two or three of the English contingent) write their prescriptions in the metric system.

There is a great deal too much theorising about what would or would not happen in the event of the adoption of the metric system. Let people go abroad and see it in actual operation in everyday life, before and behind the counter, in the school and the counting house; they would be convinced right away." (*Chem. and Drug.*, Vol. LIV, page 703).

In Canada probably the professions are in a little more advanced state than in Great Britain in considering the advisability of making the change to the new system. The officials there quite recognize the convenience that would result not only in their relations with the United States but with other foreign countries.

"RUSSIAN WEIGHTS AND MEASURES are the subject of a new regulation recently officially published. According to the *Times* the Russian pound is fixed as the standard of weight and declared to be equal to 409.512 Gm., a pail or vedro is to hold thirty pounds of distilled water at 16 $\frac{3}{4}$ ° (Celsius), and a garnietz eight pounds of water. The unit of length is the arshin, equal to 71.12 centimetres. The metric system is to be optional, and may be used on a par with the Russian in commerce in dealing with contracts, accounts, etc., and after mutual agreement by State and municipal authorities. Private persons, however, are to be under no compulsion to use the metric system when dealing with the above-named authorities." (*Pharm. Journ.*, Vol. IX, Fourth Series, page 211).

It is interesting to learn that the Danish Government

are preparing to introduce the metric system, and have even gone so far as to draft a bill with that object, which has been warmly supported by the merchants throughout Denmark.

Curiously enough the French—the inaugurators of this system—find themselves at this date in an embarrassing position which is largely due to the English speaking people holding on to the old system. The following note describes the present condition:

“In spite of the fact that the metric system of weights and measures has been in use in France for a century, and can be enforced by the persuasive aid of the law, many pharmaciens continue to publish in their price-lists the old weights, such as ounces, pounds, &c., principally because their clients maintain the habit of ordering by these weights, just as a cook buys meat and butter by the pound. The Paris Inspector of Weights and Measures has recently written to the President of the Seine Pharmacists’ Syndicate drawing attention to this state of things. He says that the old system has been illegal since 1837, and that each catalogue or price-list using it is liable to confiscation and a fine of 12*f.* for each copy. The Inspector adds that before taking extreme steps he desires to give a preliminary warning. He admits that pharmacists only conform to the habits of their customers, but thinks it regrettable that intellectual men like pharmacists should assist in perpetuating illegal practices.” (*Chem. and Drug.* Vol. LIV, page 719).

Xeroform (Tri-Brom-Phenol Bismuth)—one of the substitutes for Iodoform—has received about as much attention during the past year as in the year previous.

Dr. Lewis S. Somers of Philadelphia, Pa. has made use of it as an antiseptic in chronic suppurative otitis media. He states that “under its use epithelial growth is promoted and cicatrization occurs at an early period, while its sedative action allays pruritus and consequently allows

of more rapid repair of the tissues." (*N. Y. Med. Journ.*, Vol. LXVIII, page 924).

Dr. Emilio Pérez Noguera, Surgeon-in-Chief of the Spanish Army Sanitary Corps reports on the use of Xeroform in the recent Cuban Campaign, in a communication to a Spanish Medical Journal in which he gives an account of his successful treatment of wounds by means of not only this agent but mercury perchloride.

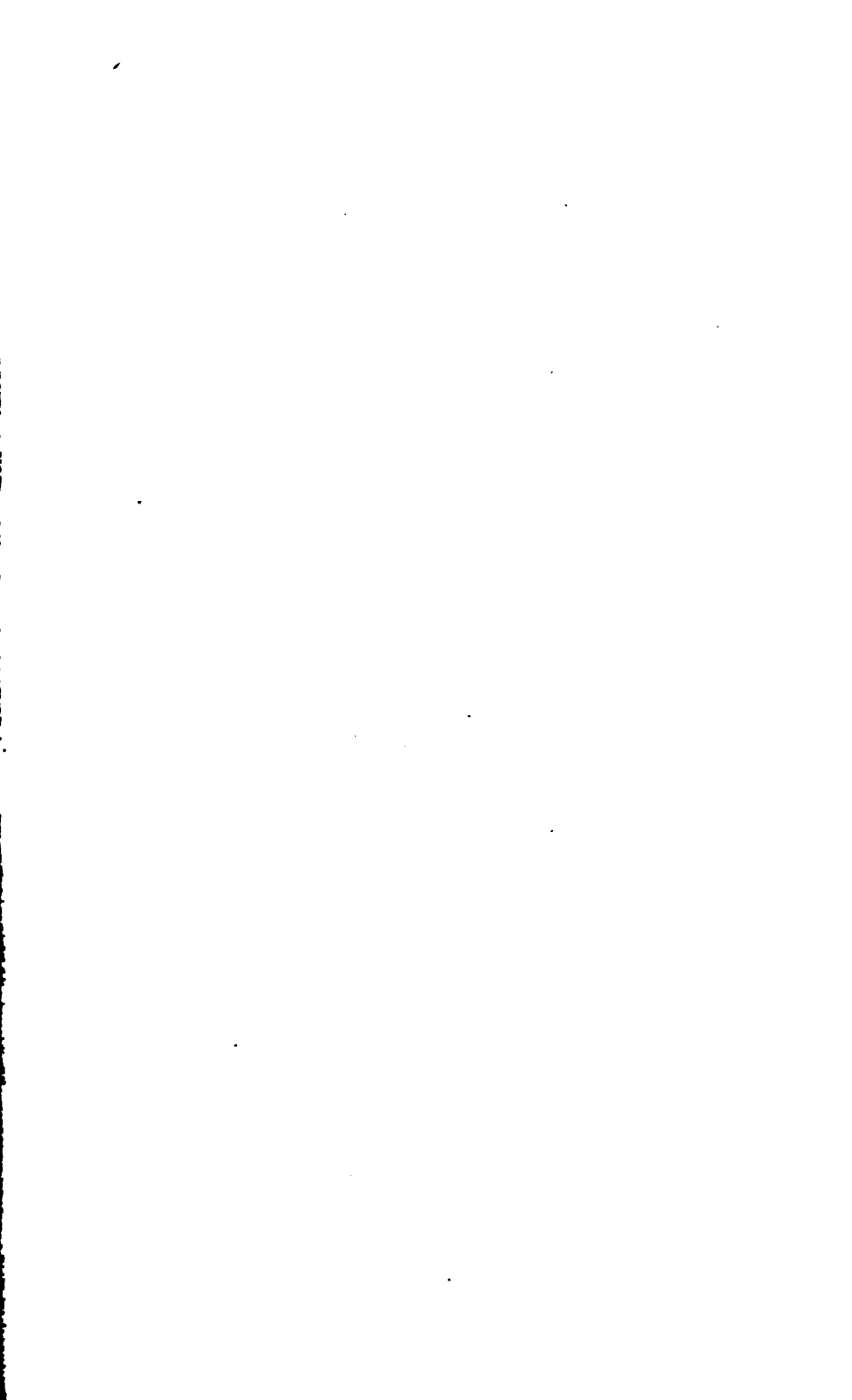
"In gunshot wounds Dr. Noguera first employed prolonged irrigation with a perchloride of mercury solution of the strength of one in 1000. He then covered the orifices of entrance and exit with a thin layer of xeroform, the whole being enveloped in sublimate gauze and carbolised cotton-wool, this dressing being changed whenever signs of moisture could be detected coming through it. Under this treatment wounds healed in a most satisfactory manner without any pus, 20 or 30 days being the longest time required when the soft parts only had been injured. In the case of wounds inflicted by the cutlass the same irrigation was practised and the edges were brought together with sutures, xeroform being dusted over the surface and a dressing applied as in the case of gunshot wounds. All the cases treated in this way healed by first intention in from one to three weeks. In one case where it was impossible to bring the lips of the wound into apposition owing to there being a loss of substance the wound granulated up from the bottom without the formation of pus, healing being complete by the end of a month. No toxic effects were observed in any of the cases nor was there any tendency to form exuberant granulations. In order to see whether an absolutely dry treatment, such as could be applied on the field of battle, would succeed Dr. Noguera selected three fresh cases of gunshot wounds without injury to any important organ, and instead of immediately irrigating them he simply swabbed them out as far as possible with cotton-wool dusted over with xeroform and

dressed them with gauze and cotton-wool. One of these was left for 48 hours and the other two for three days, all being in an aseptic condition when opened. He also found that when a number of wounded were brought into close proximity xeroform dressings prevented any of them infecting others. Altogether he is strongly of opinion that this substance is very suitable for use in military surgery." (London *Lancet*, Vol. I for 1899, page 1509).

Dr. Barksy reports on his use of this agent both externally and internally in 417 cases, and formulates the following conclusions:

"(1) Xeroform although not a powerful antiseptic is a most serviceable one. It is decomposed by the alkaline fluids of the body into bismuth and tribromophenol. The former makes an insoluble compound with ptomaines and renders innocuous, and acts mechanically to prevent the entrance of microbes. The latter constituent has a germicidal action. (2) It is not changed by light, air, or heat. It can be sterilized repeatedly up to 120° C. without alteration. (3) It is not only without odor, but it dispels the bad odors which come from ulcers of the skin, or suppurating cavities connected with the genitals or alimentary canal. (4) It possesses drying properties to a high degree. It does not form a crust over a wound, nor stick to the surface, but is carried with the discharges into the dressing. (5) It has an analgesic and a hemostatic action, and favors the growth of healthy granulations, and so hastens the healing. (6) It is not at all toxic, and does not exert any irritation either upon the wound or the surrounding tissues. It was used in the form of a powder, as a salve, in gauze, and in bougies. Internally it was given in an emulsion, the dose being from 3 to 8 grains, three times a day. It was prescribed for acute and chronic gastric troubles, and for urticaria." (*Rev. de Thérap. Médico-Chirurg.*, Vol. 66, page 356).





Vol. VI.

No. 3.

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AN

EPHEMERIS

OF

MATERIA MEDICA, PHARMACY,

THERAPEUTICS

AND

COLLATERAL INFORMATION.

JULY, 1900.

ON ACETIC ACID AS A MENSTRUUM FOR ALCOHOL IN EXTRACTING
THE ACTIVE PRINCIPLES OF SOME OFFICIAL DRUGS

BUCKTHORN AND CASCARA

BY

EDWARD R. SQUIBB, M. D.

BROOKLYN, N. Y.

1900.

NOTICE.

These little pamphlets are very irregular in their issue and may be discontinued at any time without notice, but will be sent as long as they are issued to all those who are supposed to be interested in their contents and who have requested their names to be placed on a distributing list kept for the purpose.

Whenever a new edition of the pamphlet is issued one copy is sent without charge to each name then on the list, directed to the address last obtained, but when extra or back numbers are desired the nominal price of twenty-five cents (which includes postage) is charged for each number until the edition is exhausted.

A limited number of the already completed five volumes, bound separately, are accessible to those desiring them at the nominal price of \$1.50 each, which includes delivery in the United States or Canada.

JUL 16 1900

CAMBRIDGE, MASS.

ON ACETIC ACID AS A SUBSTITUTE FOR ETHYL
ALCOHOL IN EXTRACTING THE ACTIVE PRIN-
CIPLES OF SOME OFFICINAL DRUGS.

BY EDWARD R. SQUIBB, M.D.,
OF BROOKLYN, N. Y.

(FOURTH PAPER.)*

THE OFFICINAL VARIETIES OF RHAMNUS OF THE U. S. P.—RHAM-
NUS FRANGULA AND RHAMNUS PURSHIANA (BUCK-
THORN AND CASCARA SAGRADA).

In selecting examples for a fourth paper on this subject it seemed best to take substances of wide common usage and general applicability, not dependent upon an alkaloid or upon any single or separable active principle but rather on the total extractive matter of the drug. The bark of the two officinal varieties of the Rhamnus family fulfill these conditions very well, being used in the same way for the same purpose, and for that purpose only, namely, to correct and control the condition of constipation. Neither one is a proper purgative or cathartic, nor even a very good evacuant. Both are laxatives while the Buckthorn is the more simply laxative or relaxing, and the Cascara is more actively evacuant. If both be classed as laxatives the Buckthorn must be said to be the milder and more gentle in operation. For the proper and best effect both should be given in small doses after meals for a noticeable effect only on the second day.

The bark of Rhamnus Frangula or Buckthorn has been long known and used professionally and popularly as a laxative throughout continental northern Europe where the shrub is indigenous.

*Reprint from the American Journal of Pharmacy, Vol. 72, No. 7, July, 1900.

The bark of young trunks and branches is used and that of older and larger trunks is avoided as being different in properties and effects. In common with the willow the wood of the branches was, and probably is still used for making a charcoal for sportsman's gunpowder and this secures the peeling of the proper quality of the bark at the proper season. The bark is carefully air dried and not used until seasoned for at least a year.

Buckthorn was introduced into the *Materia Medica* of this country about 1868-70 by Dr. John P. Gray the well known alienist who for so many years had charge of The New York State Lunatic Asylum at Utica, and who was killed there by the pistol-shot of one of his insane patients.

Returning from a professional visit to some of the European hospitals for the insane he brought a bag containing a few pounds of Buckthorn. Finding it rather inconvenient to use in decoction or in substance by chewing as was the practice abroad he brought the bag to this writer who advised the form of a fluid extract, made it into a fluid extract for him, and soon after imported from Hamburg the first considerable lots that are known to have come to this country. By January, 1872, the bark and fluid extract were accessible in the markets and by 1880 had so increased in use as to be admitted to the U. S. P.

From that time to the present, without special advertising or effort and against an active competition with *Rhamnus Purshiana* which has had much special advertising and effort, it has steadily increased in appreciation and use. For more information in regard to it see *Ephemeris*, Vol. III., No. 2, pp. 1045-1052, 1887.

The bark of *Rhamnus Purshiana*, *Cascara Sagrada* was admitted to the U. S. P. in 1890. "Attention was first drawn to the virtues of this plant in 1878 by Bunday of California"—*National Dispensatory*, Fifth Edition, 1894, p. 1375.

The shrub or small tree is indigenous to the western coast of North America and seems to have been sometimes confused with other varieties of *Rhamnus*. See John W. Farlow, M.D., for a paper on "*Cascara Sagrada*, and its use in the Treatment of Constipation" in the *Boston Medical and Surgical Journal* for October, 1887, p. 402. See also papers in the *Ephemeris*, Vol. III., pp. 984-1243, 1887.

This bark under the name *Cascara Sagrada*, or simply *Cascara*, is now a large article of commerce here and is exported in very considerable quantities, showing a very large and general usage. As found in the markets it varies much in quality and price, the variation consisting chiefly in the differing proportions of old and thick bark. It is believed on good authority that the effects of the bark of trunks and old branches is different in kind from, as well as inferior in degree to the younger and thinner bark, and therefore preference is given to those lots that have the smallest proportion of old thick bark. But as lots,—and bales in the same lot, differ much it is difficult to get a succession of lots of fairly uniform quantity, even with the screw of price taken off. In this respect *Cascara* is very different from *Buckthorn* (*Frangula*) which is fairly uniform in quality.

For a close comparison of the use of the officinal alcoholic menstruum with the 10 p.c. acetic acid menstruum two portions of 500 Gm. each of each variety of *Rhamnus*, were carefully and accurately made into as many portions of 500 Cc. each of fluid extract by the officinal process, the rate and degree of exhaustion noted and compared in a table, and then the finished results compared.

First for the U. S. P. process and product, 500 Gm. of *Buckthorn*, (*Frangula*) in No. 40 powder was moistened with 225 Cc. of a mixture of five volumes of Alcohol (91 p.c.) and eight volumes of water, firmly packed, filled with menstruum, macerated for 48 hours and then percolated slowly.

The percolate was received in successive fractions of 100 Cc. each, each fraction weighed and the weight of 100 Cc. of the menstruum subtracted, to get the series of differences.

Next for a parallel process with a 10 p.c. acetic acid menstruum, used in exactly the same way at the same time, gave the two columns of parallel differences occupying the first part of the table and completing the first pair, of 500 Gm. each of the same powder of *Buckthorn*.

For the second pair, *Cascara*, (*R. Purshiana*), the U. S. P. requires the bark to be in No. 60 powder, as it is thicker, harder and more difficult to exhaust. The 500 Gm. of this was moistened

with 225 Cc. of the U. S. P. menstruum, "Diluted Alcohol," (41 p.c.) packed firmly, filled with the menstruum, macerated 48 hours and then percolated slowly. The percolate was received in successive fractions of 100 Cc. each, each fraction weighed, and the weight of 100 Cc. of the menstruum subtracted to get the series of progressive differences.

Then a parallel process was managed exactly in the same way at the same time with a 10 p.c. acetic acid menstruum, giving the parallel column of differences of the second portion of the table.

The weight of 100 Cc. of officinal U. S. P. menstruum for Buckthorn, at average room temperature is..... 95.08 Gm.

100 Cc. of 10 p.c. acetic acid menstruum is..... 101.19 "

—for Cascara 100 Cc. U. S. P. menstruum

("Diluted Alcohol") is..... 93.48 "

100 Cc. of 10 p.c. acetic acid is..... 101.19 "

The first four fractions of percolate from each of the four percolations were added together and reserved.

The remaining thirteen fractions were together evaporated on a water-bath to 60 or 70 Cc. of extract and this was dissolved in the reserved portion and the whole was made up to 500 Cc. by the addition of fresh menstruum, to finished fluid extract.

The 500 Cc. of finished fluid extract from each menstruum weighed as follows, and gave the following proportion of nearly dry extract:

—Buckthorn by U. S. P. menstruum 513.0 Gm. extract 22.3 p.c.

" " acetic acid " 542.1 " " 22.5 "

—Cascara " U. S. P. " 527.1 " " 32.5 "

" " acetic acid " 565.5 " " 42.7 "

The finished fluid extract of Buckthorn by acetic acid contained 8.8 p.c. of free acid.

That of Cascara 9.7 p.c.

Fluid extracts made by repercolation gave of free acid—from Buckthorn 7.7 p.c.—from Cascara 7.8 p.c.

RATE AND DEGREE OF EXHAUSTION.

FRACTIONS OF PERCOLATE.	RHAMNUS FRANGULA, BUCKTHORN.		RHAMNUS PURSHIANA, CASCARA.	
	DIFFERENCES.		DIFFERENCES.	
	U. S. P. Men- struum	Acetic Acid Men- struum	U. S. P. Men- struum	Acetic Acid Men- struum
	Gm.	Gm.	Gm.	Gm.
1st. 100 Co.	9.55	8.88	12.28	11.27
2d. " "	8.08	6.88	11.33	10.45
3d. " "	5.71	5.84	10.56	9.21
4th. " "	3.94	3.81	9.86	8.00
5th. " "	2.74	2.68	6.18	6.12
6th. " "	1.62	1.48	4.55	4.64
7th. " "	1.16	1.05	2.18	3.08
8th. " " ....	.98	1.01	.88	1.87
9th. " " ....	.92	.64	.21	.77
10th. " " ....	.47	.62	.00	.47
11th. " " ....	.40	.40	.13	.39
12th. " " ....	.24	.48	.07	.20
13th. " " ....	.23	.25	.02	.29
14th. " " ....	.41	.46	.11	.25
15th. " " ....	.19	.22	.00	.14
16th. " " ....	.00	.26	.00	.19
17th. " " ....	.13	.10	.00	.07
	86.72	83.56	57.81	57.11

The percolation having been carried to practical exhaustion in both varieties the fluid extracts must be accepted to represent the value of the drugs, and this value is contained in Cascara in a much larger proportion of extract. But this is due not only to difference of menstruum, but also to difference of fineness of the powder percolated. The U. S. P. directs Buckthorn in No. 40 powder and Cascara in No. 60, and for this reason the latter yields the larger proportion of extract, and makes any close comparison of degree and rate of exhaustion impracticable. The powders should have been of the same degree of fineness. So far however as the Table goes it shows the U. S. P. menstruum to be the best for exhaustion.

But in comparing the resulting fluid extracts the acetic acid menstruum yields much the best preparations in every respect.

The U. S. P. Fluid Extracts of both Buckthorn and Cascara are intransparent, almost black, of the consistence of thin syrup, and have a considerable deposit.

Those from acetic acid are also intransparent but less black, of thinner consistence, and with very little deposit.

Diluted in the proportion of 1 Cc. to 60 Cc. of water—the U. S. P. Buckthorn gives an opaque mixture with a heavy deposit.

"	Cascara	"	a muddy	"	"	"	heavier	"
Acid Buckthorn	"	"	nearly clear dilution,	very slight	"			
"	Cascara	"	"	"	"	"	heavier	"

These dilutions, which are about right for administration, are all bitter but of quite different degrees and character of bitterness. The U. S. P. Cascara is a moderately strong and not an agreeable bitter. The acid Cascara is quite as strong a bitter but more agreeable on account of the acidity which is barely perceptible.

The U. S. P. Buckthorn is very slightly bitter,—hardly disagreeably so; and the acid Buckthorn has this very slight bitterness agreeably modified by the perceptible acidity.

On the whole the sensible properties are decidedly in favor of the acetic acid menstruum.

But this does not serve to compare the therapeutic or medicinal value of the menstrua and as there is no separable active principle for comparison by quantitative assay this becomes a difficult point, not to be reached with critical accuracy.

Still as the barks have a very decided and uncomplicated therapeutic activity it was thought that a useful comparison might be made by dosage administration.

The two fluid extracts of Buckthorn and Cascara each represented the bark from which it was made in the proportion of cubic centimetre for gramme (or minim for grain), and with these a comparison of physiological activity was attempted.

A person was found in fair ordinary digestive health with regular habits of diet and exercise, having a daily alvine discharge. This daily discharge was of fairly uniform character, small in volume but hard in consistence, of good dark color, well elaborated and discharged slowly with much effort and by habit, without desire, at bed-time.

In short this is a case of simple constipation kept under control by force of habit, and although it is but a single case, and as such is a law unto itself only, it served fairly well upon which to measure the activity of these fluid extracts. The time for the habitual daily discharge was bed-time. The time for taking the doses was

after each of the three daily meals. The intervals after the general trials in which to get back to the original habit were never less and generally much longer than a week.

By experiment it was found that a convenient dose by which to note the effects was 0.5 Cc. = 8 minims in about 30 Cc. = 1 f. $\frac{3}{4}$, of water, and the time to look for the effect was the bed-time of the second day, after one dose or two doses or three doses on the first day, etc.

First Testing.—The U. S. P. Buckthorn. A morning dose of 0.5 Cc. produced no perceptible effect upon the discharge of the bed-time of the first or second day. Interval of three days.

2d trial. A morning and mid-day dose of 0.5 Cc. each gave no perceptible effect at bed-time of the first or second day. Interval of three days.

3d trial. A morning, mid-day and evening dose gave a very slight effect at bed-time of the second day. Interval of three days.

4th trial. A dose after each of the three meals of the first day, and after the morning meal of the second day,—four doses in all,—gave a moderate but distinct effect on the consistence of the discharge at bed-time of the second day, without any griping or other disturbing effect. Interval of eight days.

Second Testing.—The acid Buckthorn. Taking it as assured that this preparation is at least not very much less active than that of the U. S. P. the first three trials were all made by doses after the meals of the first day, and the bed-time discharge of that day was slightly increased in volume but in other respects unchanged by the three doses. The fourth dose after the morning meal of the second day, to have been parallel to the U. S. P. preparation should have been waited for till bed-time and should then have given a moderate but distinct effect on the consistence of the discharge. But the condition became imperative, producing a free discharge within three hours after the fourth or morning dose of the second day, without any griping or other disturbance up to the period of urgency.

That is 4 doses (2 Cc. in all) of the U. S. P. preparation of Buckthorn, gave a moderate effect in about 35 hours, while the same quantity of the acetic acid preparation under closely similar conditions gave a full effect in about 27 hours. This experiment repeated in the reverse order,—that is the acid preparation first and

U. S. P. second after 3 days interval gave similar results with the acid preparation in 30 hours, U. S. P. in 33 hours giving an advantage to the acetic acid menstruum which could hardly have been all accidental and it is therefore concluded that the acid menstruum is at least equal in medicinal value to the alcoholic.

A useful comparison of the two fluid extracts of Cascara was more difficult on account of the tendency of Cascara to gripe unless some corrigent was used, and such use confused the experiments. By repeated preliminary trials it was found that Cascara was much more active than Buckthorn the proportion being about 0.3 Cc. of Cascara to give the quantitative results of 0.5 Cc. of Buckthorn, but the results were so different in quality as to badly confuse the relations. The best that could be done with Cascara was to find that a dose of 0.5 Cc. of the U. S. P. fluid extract given after the morning and mid-day meals gave an average of purgative—not laxative,—effect and of griping, and that the same doses and similar management with the acetic fluid extract gave practically the same results, so that there is no discoverable difference either in the activity or the harshness of the fluid extracts as made with the different menstrea.

Whilst these experiments make no claim to great accuracy of results they do fairly establish the conclusion that the acid menstruum is at least fully equal to the alcoholic with all the possible differences in favor of the acid.

Incidentally these experiments offer an opportunity for a useful comparison of the medicinal effects of the two officinal varieties of Rhamnus.

The Cascara has nearly double the activity of Buckthorn the equivalent doses being 0.3 Cc. of Cascara to 0.5 Cc. of Buckthorn, but in this proportion, and in other proportions tried, Cascara gripes while Buckthorn does not. The effect of a good corrigent to prevent the griping is needed in the use of Cascara. Cascara is an evacuant and is liable to leave a lingering action on the lower bowel. Buckthorn is a mild laxative acting insensibly and leaving no irritability or after action. It needs no corrigent and is not a disagreeable bitter, as is Cascara. Buckthorn is not a good purga-

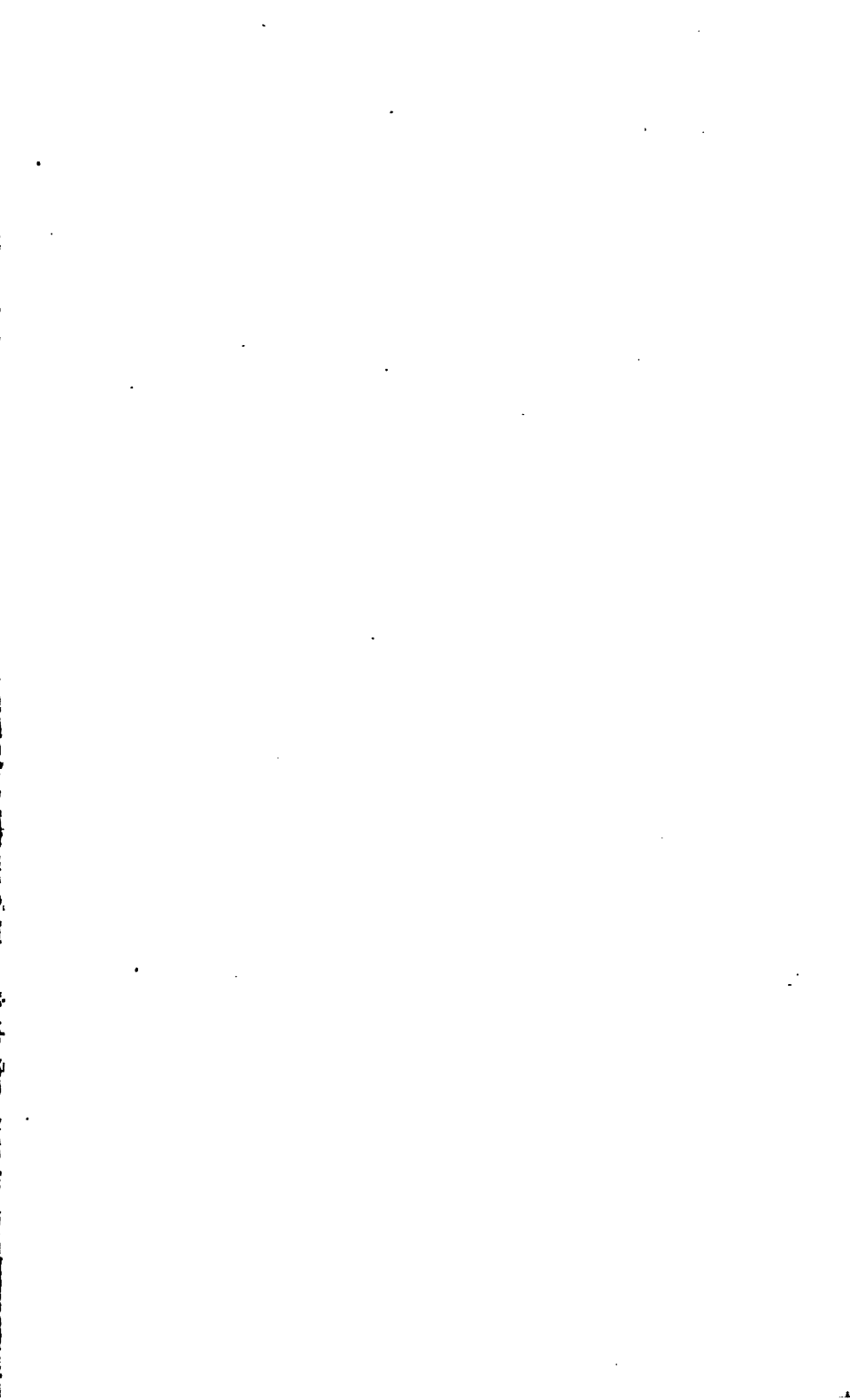
tive or even a good evacuant, but is an excellent mild laxative and in effect is not unlike the general effect of Blue Mass.

Cascara is not a therapeutic duplicate of Senna yet is much like it in the character and quality of its effects, with the advantage of smaller dose.

Buckthorn bears a somewhat similar relation to Rhubarb but is more simple and mild in operation, is more limited in application and required in much smaller doses for its best effects. All are laxatives and produce feculent discharges, whilst salines and mineral waters are aperients and tend to produce watery discharges.

The two official varieties of Rhamnus are simple laxatives and if kept within their scope, and skilfully applied they seem well adapted to the very extensive use into which they have grown. The smallness of the dose in which they are effective is accounted for in the circumstance that they give bilious discharges, and discharges with the color and character of bile indicate stimulation of the liver, while stimulation of the liver indicates increased secretion of bile, which of itself would give a laxative effect without Buckthorn, just in the way that mild mercurials are supposed to act. That is, a stimulant to the liver is the excitant to increased secretion of bile, and bile is the natural laxative of the digestive process.

A very good way, if not the best way to use the Fluid Extract of Buckthorn to correct a constipation is to give 0.5 Cc. diluted with about 30 Cc. of water after each meal for one day, and for one or two meals of the second day, or until a mild laxative effect is obtained. Then to reduce the number of doses to one or two a day for one or two days—then to one a day—then on alternate days—then once or twice a week until a natural habit is established and no longer. But as each case needs a little special management it is only practicable to give a general plan of application to be modified by the effects in individual cases, with great caution not to get an evacuant effect, when only a laxative effect is desired. In many individuals a dose of 0.5 Cc. after the morning meal for three or four days will give the appropriate laxative effect when 2 Cc. given at one dose would be evacuant and would leave a condition of costiveness as bad as the original condition for which the Buckthorn was taken.



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AN
EPHEMERIS
OF
MATERIA MEDICA, PHARMACY,
THERAPEUTICS
AND
COLLATERAL INFORMATION.

JANUARY, 1901.

BRIEF COMMENTS ON THE MATERIA MEDICA, PHARMACY AND
THERAPEUTICS OF THE YEAR ENDING JULY 1, 1900.

(ALPHABETICALLY ARRANGED)

BY

E. H. SQUIBB, M. D.

BROOKLYN, N. Y.

1901.

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ALPHABETICALLY ARRANGED.

Read by title at the Seventeenth Annual Meeting of The New York State
Medical Association on October 18, 1900.

It will be quite unnecessary to take the time to make any explanatory introduction to these Comments, for the title itself covers the ground sufficiently.

Acetanilid (Antifebrin) is still a most important drug. In some of its uses it is hard to realize how the physician could now get along without it. Unfortunately, however, the "head-ache powder" habit is much on the increase and an alarming number of bad effects, not to say fatal results, are continually reported. These reports now-a-days are not confined to the medical literature but are found frequently in the lay press. The *Philadelphia Medical Journal* (Vol. 4, p. 1145) editorially comments as follows:

"Even the Coroner is compelled to protest at the furious cart-load-dumping of samples of drugs in the halls of private houses

throughout whole cities. The Coroner of Philadelphia issues a warning that these headache-powders, secret drugs to kill pain, pills, and concoctions galore, for all conceivable purposes and to satisfy the mania of the self-druggers, are often poisonous, and that the lives of children into whose hands they fall or are thrust, are endangered. Inquests show that insanities and sudden deaths may be traced to the use of these nostrums. It is a national disgrace, this saturnalia of the quacks and venders of medical humbugs, and the laws should be made effective against the intolerable pest."

Dr. G. W. Gaines of Milliken's Bend, La., has reported a case of rheumatism in an adult negro who was being treated with Acetanilid and who established a habit in that his pains returned if he left off the medicine. The patient is reported as using 57 grammes (two ounces) each week and has been doing this for some months. It is not stated whether the man suffers any ill effects by its continued use (*New Orleans Med. and Surg. Journ.*, Vol. LIII, p. 30).

In connection with the treatment of rheumatism by this agent, Dr. F. A. Long reports in the *Western Medical Review* (December 1899) that nothing has ever given him more satisfactory results in inflammatory rheumatism than Acetanilid put up in a special tablet with sodium salicylate, caffeine citrate and podophyllin (*N. Y. Med. Journ.*, Vol. LXXI, p. 58).

Unfortunate cases are still undoubtedly reported of Acetanilid poisoning and it would be quite out of place to attempt to enumerate them here, but it may be of service to those who desire to keep a record of such cases to know where the account of any peculiar case may be found. A case in point was that of Dr. O. R. Summers of Middletown, Ind., and was published he says not only for the reason that it was his first case but on account of the smallness of the dose, the severity of the symptoms and that he had given much larger doses to that same patient many times before, which proved that there was no idiosyncrasy for the drug (*N. Y. Med. Journ.*, Vol. LXXI, p. 426).

Acid Acetic has been still more extensively used in the exhaustion of crude drugs on a large scale during the past year. The finished products have not only made more of a record for themselves therapeutically in the hands of various medical practitioners but their appearance as finished pharmaceutical products has

been much improved by the closer study of the technique used and the amount of settling which has been permitted to take place, and thus a fairer comparison with the alcoholic preparations can be made at this time. It will therefore probably be of interest to both the physician and the pharmacist to see the following tabular form, showing the condition of the samples of the same list of drugs enumerated here last year which have been standing for the past twelve months.

Drug.	Liquid Portion, Per cent.	Deposit. Per cent.	Condition.
Aconite Root	99	1	Clear
Allspice	98	2	"
Arnica Root	99	1	Turbid
Belladonna Leaf	95	5	Clear
" Root	98	2	"
Black Pepper	95	5	"
Buchu	99	1	"
Buckthorn	99	1	"
Burdock	99	1	"
Cannabis Indica	99	1	"
Capsicum	98	2	"
Cascara Sagrada	99	1	"
Cascara " Aromatic	97	3	"
Cassia Saigon	98	2	"
Cardamon	99	1	"
Calery	99	1	"
Cimicifuga	99	1	"
Cinnamon, Ceylon..... {	25	75	{Tendency to Gelatinize
Cinchona, Red.....	98	2	Clear
" Yellow	98	2	"
Cloves	98	2	"
Coca	97	3	"
Colchicum Seed	99	1	"
Coriander	99	1	"
Cypripedium	99	1	"
Dandelion	99	1	"
Digitalis	95	5	"
Ergot	99	1	"
Eucalyptus	98	2	"
Garlic	99	3	"
Gelsemium	99	1	"
Gentian	95	5	"
" Compound	95	5	"

Drug.	Liquid Portion. Per cent.	Deposit. Per cent.	Condition.
Ginger, Jamaica	95	5	Clear
Hydrangea	98	2	"
Hydrastis	98	2	"
Hyoscyamus	95	5	"
Ipecac	92	8	"
Juniper	92	8	"
Larkspur, Delphinium	99	1	"
Leptandra	99	1	"
Lobelia	99	1	"
Mace	98	2	Turbid
Malt	99	1	Clear
Marjoram	99	1	"
Nutmeg	99	1	"
Nux Vomica	99	1	"
Prickly Ash	99	1	"
Rhatany	98	2	"
Rhubarb	98	2	"
Sanguinaria	99	1	"
Sarsaparilla	97	3	"
" Compound	97	3	"
Senega	88	12	{ Turbid and Gelatinizing
Senna	95	5	Clear
Spigelia	99	1	"
Squill	98	2	"
Thyme	99	1	"
Valerian	98	2	"
Yellow Dock	99	1	"

The space occupied by the liquid portion and the deposit is taken by actual measurement and then reduced to percentage by volume, as found in the above table. The deposits themselves hold from 20 to 80 per cent. of the liquid portion, but the most of the latter can be recovered by either filtration or displacement. It is still to be regretted that in the case of Cannabis Indica that equal parts by weight of 60 per cent. Acetic Acid and officinal alcohol have to be used, as Acetic Acid alone in the various strengths so far tried does not completely exhaust it.

In comparing the odor of the above Acetic Fluid Extracts with the alcoholic preparations of the same drug many of them develop the characteristic odor of the drug far more distinctly in the Acetic Acid preparation, for the slight pungency of the Acid

apparently does not mask the odor as much as the alcohol. In comparing the general appearance of these two classes of fluid extracts, the advantage seems to be in favor of the Acetic Fluid Extracts in the majority of cases. The exceptions to this general rule are found in the table in those marked "turbid." In relation to this particular condition, however, it must be remembered that fluid extracts in general made with any of the various menstrua vary quite considerably at times, depending upon the particular lot of drug used in that portion.

Since giving the above list last year, the following additional drugs have been successfully exhausted with Acetic Acid:

Drug.	Liquid Portion, Per cent.	Deposit, Per cent.	Condition.
Aromatic Powder.....	95	5	Turbid
Buchu and Potassium Acetate.....	99	1	Clear
Bittersweet.....	98	2	"
Cinchona, Red Compound.....	98	2	"
Calumbo.....	95	5	Turbid
Convallaria.....	98	2	Clear
Cotton Root.....	97	3	"
Pilocarpus.....	97	3	"
Pleurisy Root.....	98	2	"
Pareira.....	97	3	"
Quassia.....	97	3	"
Sculleap.....	95	5	"
Spigelia and Senna.....	98	2	"
Senna Compound.....	98	2	"
Stillingia.....	95	5	"
Stramonium Seed.....	95	5	Turbid
Serpentaria.....	98	2	Clear
Tarragon.....	98	2	"
Tobacco.....	98	2	"
Uva Ursi.....	97	3	"
Veratrum Viride.....	95	5	"
Wild Cherry.....	95	5	Turbid

The mixture of Buchu and Potassium Acetate was tried in order to make a finished product to satisfy a demand coming particularly from the genito-urinary practitioners.

Although stated on many previous occasions in print, it may be worth repeating here the observation of Dr. Samuel Edwards of Baltimore, Md., that in his experience of some years he has

found that Acetic Acid (vinegar) acts as an effective preventive to the nausea and vomiting following the administration of an anæsthetic. It is to be hoped that a more general use will be made of this agent and either the report confirmed or disproved.

Dr. L. Fürst of Berlin, Germany, states that in the case of an emergency he used Acetic Acid to disinfect his hands and the tissues adjacent to the site of operation. His success was very gratifying (*Deut. Aerzte-Zeitung*, Vol. for 1900, p. 275).

Acid Cacodylic (Di-Methyl Arsenine [Cacodyl] Hydrate)—the new organic arsenical compound containing the equivalent of 71.4 per cent. of arsenic oxide (known as arsenous acid)—continues to receive considerable attention since Dr. Armand Gautier's first announcement followed by that of Dr. Dalché.

Drs. Fernand Widal and Prosper Merklen have fully confirmed its value when used subcutaneously. They report in an article entitled "The Action of Cacodylic Medication" (*Bull. et Memoires de la Soc. Méd. des Hôp. de Paris*, Third Series 17th year, p. 232). Their experience shows that its use can be continued for some years without establishing a habit or showing other ill effects. It has been found of value in the treatment of chlorosis, leucocythemia and like symptoms.

Most of the observers who discussed this paper at a meeting of the Paris Society of Hospital Physicians seemed to agree that when given by the stomach or rectum the effects are apt to be dangerous, owing to supposed chemical changes in the Sodium Cacodylate usually given. Dr. Dalché however speaks very emphatically of his favorable results even when given in pill form by the stomach. The only objectionable effects appeared to be the slight garlic odor given to the breath. Of all the cases treated the tuberculous predominated. He reports that three were unquestionably cured, and in four a marked improved condition occurred in that they increased in weight, developed more muscular force and manifested greater renal activity. Two of his cases gave evidence of no beneficial results and two became worse, but these latter were in a very advanced stage of tuberculosis. During the discussion, it developed that as large doses as from 400 to 800 milligrammes (6.2 to 12.4 grains) were given by the stomach or rectum with no ill effects. Drs. Widal and Merklen made use of hypodermic injections of from 50 to 100 milligrammes ($\frac{1}{2}$ to $1\frac{1}{2}$ grains). Hygienic precautions were always adopted in

the treatment of all the cases, and the skeptical attribute much of the good results to following out such a plan.

Dr. Maurice Letulle of Paris, France, although still experimenting with this agent is also one of those who has noticed that when the rational routine practice of his hospital is suspended the good effects of this agent are no longer noticed and relapses occur. He however has made a report on "Injections of Cacodylate of Soda" (*La Presse Médicale*, Vol. 8, first half, page 209) in which he relates good results in the treatment of pulmonary tuberculosis. He injects for six days in succession and then suspends for a week, making use of Dr. Gautier's original formula which may be repeated here:

Sodium Cacodylate... 6.40 grammes (100 grains)
Distilled Water.....100 Cc. (about 3¼ fluid ozs.)
Sol. Carb. Acid (1 to 10) 6 drops

The localities for the injection which he preferred were in the side, hypogastric region and buttocks. He admits that he did not always obtain favorable results, due largely to the cases being much advanced, with considerable fever and cachexia. On the other hand however there were cases of a very severe nature which were markedly benefited.

Dr. J. Grasset of Montpellier, France, has reported on the treatment of thirteen cases in which he administered this agent by the mouth and found it well borne. He advocates first administering by the mouth and then changing to either hypodermic injections or rectum administration if intolerance occurs (*La Semaine Médicale*, Vol. 20, p. 90).

Dr. R. Belbèze of Paris, France, reports on its use in three cases of simple chorea in children ranging from the ages of 8 to 14. He injected by the rectum daily for the first 5 days, then twice daily for 5 days and three times daily for the following 5 days. He then interrupts for 5 days, after which he continues for 15 days. The cases were all of some severity (*La Semaine Médicale*, Vol. 20, p. 110).

Dr. Bormans of Turin, Italy, read a memoir before the Royal Medical Academy of Turin on the use of Sodium Cacodylate in cases of chlorosis. He is a believer in much larger doses than those usually given, and finds that it is quite readily tolerated and of much service in all those cases in which large doses of arsenic are indicated. He finds it of much service in those cases of anemia

and chlorosis in which there is an intolerance of iron. Dr. Battistini in discussing the paper reported that he noticed such unfortunate results as pyrexia and restlessness due to the disturbance of the nervous system after its use. He would agree to the general usefulness of the agent but would advise a certain amount of caution (London *Lancet*, Vol. I for 1900, p. 1037).

Dr. Alfred Frassi of Pisa, Italy, has also made a study of this agent in chlorosis and tubercular affections, confirming the good reports from others (*Gaz. degli Osped. e delle Cliniche*, Vol. XXI, p. 346).

Dr. J. Renaut of Lyons, France, reports favorable results in the use of Sodium Cacodylate in the treatment of mucous epithelioma. He records one case of the growth being in the tongue and most marked improvement followed after eighteen months' treatment. He administered the agent by the mouth in pill form made up of:

Sodium Cacodylate...50 milligrammes ($\frac{1}{2}$ of a grain)

Extr. of Gentian....50 " (" " " ")

in each pill, and five of these were given daily (*Rév. de Thérap.*, Vol. 67, p. 238).

As is usually the case with these newer agents, attempts are soon made to form new combinations by which increased effects are aimed at. In this line there is now offered a Guaiacol Cacodylate, recommended as of special value in the treatment of tuberculosis. It has been given the name of "Cacodyliacol." It appears in the form of fine, colorless crystals with a garlic odor and slightly caustic taste, soluble in water, alcohol and glycerin. Very meagre accounts of its action are yet given, but it is reported that subcutaneous injection of 30 to 50 milligrammes ($\frac{1}{2}$ to $\frac{3}{4}$ of a grain) surpass the Sodium Salt. The injections are apparently given every second day, and after ten doses have been given there is an intermission of eight days before renewing the injections.

Acid Carbolic (Phenol) as an agent used in criminal cases of poisoning, is largely on the increase. The unfortunate cases were becoming so numerous in England that their consideration in the House of Commons was found necessary, whereby Carbolic Acid was scheduled among the poisons. The officials have already recognized that this has had the effect of greatly diminishing the number of fatalities, for it is more difficult for the purchaser to obtain. Even with this limitation, however, it appears that the

fatalities from Carbolic Acid alone were nearly as many as from the whole of the English scheduled poison list. Their record is of interest:

"Carbolic Acid first appeared as a 'cause of death' in the Registrar-General's report for the year 1866. It began with a record of three accidental deaths in that year. Two others followed in 1867, and in 1868 seven accidental deaths and one suicide were debited to the coming poison. As the substance came into general use, and the facility of getting it became known, accidents from its use grew more numerous, and suicides by it increased alarmingly. In the five years 1868-72 the accidental deaths from carbolic acid numbered 53 and the suicides 22. In the next five years (1873-77) the figures were respectively 92 and 53. In the quinquennium 1878-82 there were 90 accidental deaths and 108 suicides due to carbolic acid, and from this time the substance became the popular poison. In the five years 1893-97 the accidental deaths due to carbolic acid numbered 176, and the suicides 847. In the last reported year, 1898, there were 37 accidental deaths and 169 suicides attributed to carbolic acid. Truly it was time something was done to check this continuous massacre." (*Chem. and Drug.*, Vol. LVII, p. 55).

A similar report for this country is not now at hand but would have been of interest if it could have been given here for comparison.

Dr. R. Abrahams of New York City reports an unexpected fatal case of Carbolic Acid poisoning in an infant, due to astonishingly rapid absorption by the skin. After giving a detail of the delivery of the child and the poison symptoms, he relates the history of the poisoning (*Pediatrics*, Vol. IX, p. 241).

Quite considerable prominence has recently been given to the subject of Carbolic gangrene introduced most prominently by a paper read at the annual meeting of the Massachusetts Medical Society last June on "Gangrene Produced by the Application of Dilute Solutions of Carbolic Acid" by Dr. Francis B. Harrington of Boston (*Amer. Jour. Med. Sciences*, Vol. CXX, p. 1). Although such unfortunate results from the external application of Carbolic Acid have been known for many years past, it needed just some such awakening as this paper furnished to call attention to the results of too recklessly using this valuable agent. It is well known, however, that gangrene does not invariably follow

from such applications but this fact should not deter those who have occasion to recommend or actually make use of such solutions, to advise caution and especially to keep it out of the reach of children. The general consideration which has been given to this subject since has developed the fact that many surgeons can not quite agree to Dr. Harrington's general advice to use other substitutes for wet dressings, for the beneficial results have been so marked in too many cases with Carbolic Acid Solution. They would rather call for more care in its use.

Dr. Wendell C. Phillips of New York City, who made "A Preliminary Report upon the use of Pure Carbolic Acid in the Treatment of Mastoid Wounds and Chronic Suppuration of the Middle Ear" and which was alluded to here last year, now makes "A Further Report." He states that "during the past year I have continued the use of carbolic acid both in private and hospital practice, and am able to give a fuller report as to its benefits. My cases have been about the same as those reported before, excepting that I have used it upon the denuded surfaces after ossiclectomies and also in burrowing pus sacs accompanying mastoid suppurations." (*N. Y. Med. Record*, Vol. 58, p. 296).

Dr. R. Minervini of Genoa, Italy, has carried on quite an extended series of experiments on "The Bactericidal Action of Carbolic Acid and Its Value in the Practice of Surgery" (*Archiv. für klinische Chirurgie*, Vol. 60, p. 687). His claim is that its bactericidal influence is very limited and the surgeon should not rely on its effectiveness. He argues that Lister's results were rather due to a checking of the development of the bacteria than to their destruction.

As opposed to the above investigation and opinion, Dr. Frederick J. Adams of Bridgeport, Conn., makes "A Plea for the Further Use of Carbolic Acid." He introduces the subject as follows: "One of the best of our bactericides is carbolic acid, which has probably been used as extensively as any of our antiseptics." He claims that by the judicious use of alcohol as its antidote, unfortunate results may be minimized. He makes use of the liquefied crystals by applying them with a camel's hair brush, and just as soon as the surface appears white he applies a chemically pure alcohol in copious quantities, and "the work is over." He gives a partial list of five cases taken at random treated at the Bridgeport Emergency Hospital Dispensary. He closes by relating the history

of an attempt at suicide with Carbolic Acid which was counteracted by the use of alcohol, and remarks that he makes "no claim of being the first to discover the effect of alcohol as an antidote to carbolic acid, but merely urge the fraternity to a further use of the pure acid, and can assure them of splendid results with cases that have formerly been tedious and trying, and only recovered to bear great scars where the patient had been lanced" (*N. Y. Med. Journ.*, Vol. LXX, p. 780).

In a general summing up of the testimony for the recognized antidotes for Carbolic Acid, the Editor of *Merck's Archives* (Vol. I, p. 498) states that alcohol ranks the highest. He firmly believes that if either whisky or alcohol is promptly used and then immediately followed by washing out the stomach and administering sodium sulphate, almost uniformly favorable results will follow. He repeats the well recognized fact that at times it is almost impossible to make emetics work, and he strongly recommends the use of the rubber tube in repeatedly washing out the stomach. He directs that sodium sulphate be added to the water thus used so that any acid in the stomach and intestines may be counteracted.

Dr. E. T. Nealey of Bangor, Maine, reports an interesting fact in his observations that when Carbolic Acid and alcohol are mixed no escharotic poisonous effects follow. A further consideration of the recognized antidotal effect of alcohol over Carbolic Acid may lead up eventually to some satisfactory explanation of his observations, in that alcohol may correct or modify some of the well-known effects of Carbolic Acid without entirely counteracting all of its beneficial effects, but his surmise that some chemical change takes place in the mixture is not borne out by any evidence that there has been any such change.

Dr. Livio Amadori of Italy reports on the treatment of a case of malignant edema by injections of 32 milligrammes ($\frac{1}{2}$ grain) of Carbolic Acid. Seven injections were made into the swelling of the left upper eyelid which later spread over the head and finally closed the right eye. A rapid fall of the pulse and temperature with a relief of pain and swelling followed, and was complete in five days. Discoloration of the urine naturally followed but did not last longer than 36 hours after the last injection (*Gaz. degli Osped. e delle Cliniche*, first half of Vol. XX, p. 714).

Dr. N. A. Nemtchikoff of Russia reports his success in the radical cure of abscesses, erysipelas, lupus and other local inflammations

by the injection of a 5 per cent. solution of Carbolic Acid. He states that he has observed no ill effects, and that it appears to offer an efficient bactericide. It apparently renders the pus already present thin and easily absorbable. Complete local anæsthesia is produced and the pain does not return for three or four days (*N. Y. Med. Jour.*, Vol. LXXII, p. 123).

Dr. D. S. Hanson reported to the Cuyahoga Co. (Ohio) Med. Society "A Case of Tetanus treated by the Baccelli Method of Hypodermatic Injections of Carbolic Acid in two per cent. solution." The case was that of a 14 year old boy who had accidentally shot himself through the foot. Tetanus followed. Three injections of a syringeful each were made three times a day for nine days. The urine became smoky and the injections were reduced to two a day and were continued for two weeks longer. Small doses of eserine were given with the injections. A good recovery followed (*Cleveland Med. Gaz.*, Vol. XIV, p. 642).

Drs. H. L. Nietert and R. F. Amyx of St. Louis, Mo., reported "Four cases of Tetanus treated by Carbolic Acid Injections at the St. Louis City Hospital." A two per cent. solution was used. Three of the cases died, but the fourth in which a larger quantity was used, recovered (*Med. Rev. of St. Louis*, Vol. XI, p. 507).

Dr. J. Mitford Atkinson reports from the Government Civil Hospital at Hong Kong, China, a case of bubonic plague treated with large doses of Carbolic Acid and followed by recovery. He remarks:

"I was led to try this drug by reading an article in *The Lancet* of April 8, 1899, p. 958, by Mr. A. Wiglesworth on the Treatment of Influenza by Large Doses of Carbolic Acid, and certainly in this case it appears to have been efficacious. During the three days June 10th to 12th over 200 grains of carbolic acid were given internally with the result of lowering the temperature, allaying the vomiting, and relieving the severe mental depression. Undoubtedly this drug has marked antithermic and antitoxic properties. Professor Baccelli has advocated its use given hypodermically as a cure for tetanus and this case tends to prove that it may be useful in the treatment of bubonic plague" (*London Lancet*, Vol. II for 1899, p. 1589).

Mr. Francis Evelyn Place—an English veterinary surgeon—reports a few notes which he states may form an appendix to the case of Dr. Atkinson for the reason that he has been treating teta-

nus in horses for the past two years by means of hypodermic injections of Carbolic Acid in large doses (London *Lancet*, Vol. I for 1900, p. 538).

Dr. Edward Gooddy of Llandudno, Wales, instigated by the interesting articles above alluded to, determined to try Carbolic Acid in large doses in the treatment of influenza as recommended by Mr. Arthur Wiglesworth of Liverpool, England (alluded to here last year) and now confirms the favorable reports of the latter. He wishes to record one case of an extremely large dose being administered accidentally without injury. The patient was questioned after recovery and stated that he had felt no ill-effects beyond a moderate feeling of heat in the pit of the stomach. Dr. Gooddy concludes that "the dose of carbolic acid which is to be looked on as poisonous apart from the action of the concentrated acid as a corrosive seems at present not be determined" (London *Lancet*, Vol. I for 1900, p. 1030).

Acid Chloralb (a combination of chlorine and albumin) has been little alluded to in the current medical literature of the past year. Several paragraphs have appeared but they are apparently old matter copied.

Acid Citric apparently continues to be used with effect in the treatment of atrophic rhinitis as originally recommended by Dr. Hamm of Brunswick, Germany (alluded to here last year).

Dr. Lewis S. Somers of Philadelphia, Pa., has followed up this line of treatment "in a number of cases resisting the usual forms of topical treatment, and with but few exceptions found that it did all that its originator claimed for it." He gives details of a few of those cases used to determine the value of this Acid. These received no other treatment except cleansing. He closes his report thus:

"The following conclusions seem warranted by my experience with citric acid in this most troublesome affection:

1. The drug is of great value in preventing the fetid odor of atrophic rhinitis.
2. The successful action depends upon its direct application to the diseased tissues; for this reason the removal of all foreign material is absolutely necessary.
3. After its use the ozena usually remains absent from one to two days, and in exceptional cases longer, depending upon the extent and severity of the morbid process.

4. It exercises no direct action upon the morbid tissue in the direction of restoration to its normal functions.

5. Unless used at more or less regular intervals its action is but transient, and the ozena speedily becomes prominent again.

6. To a moderate extent it inhibits scab formation.

7. Finally, citric acid is an important addition to the therapy of fetid rhinitis by enabling the rhinologist to successfully combat the chief and often only complaint of the patient—ozena." (*Ther. Gaz.*, Vol. XXIV, p. 147).

Acid Picric (Tri-Nitro-Phenol) is one of those articles which has received considerable prominence lately owing to its being employed in the manufacture of smokeless gun powder. The English Government recently found it necessary to restrict its exportation in order that it might not fall into the hands of their enemies. The price thus being increased considerably, reduced its usefulness somewhat, but it still holds its own in effectiveness in the treatment of burns of the first and second degree.

Dr. E. Hawthorn of Marseilles, France, has experimented to some extent with it in the treatment of all forms of chancres. He reported his results after having treated twelve consecutive cases with uniformly good effects. His plan consists in first washing the surface thoroughly with camphorated solution of carbolic acid, then he applies a dressing moistened with a saturated solution of Picric Acid. He cautions the user to apply it only to the affected parts as it is very apt to set up an eczematous or erythematous eruption of the healthy skin. Cicatrization was found to begin in about four or five days and healing would be accomplished within a month (*La Sém. Méd.*, Vol. 20, p. 110).

Drs. E. Desnos and Paul Guillon of Paris, France, have published an article on the "Treatment of Chronic Urethritis by the Instillation of Picric Acid" (*Journ. de Médecine de Paris*, Vol. XI, second series, p. 403). They claim that it acts almost as a specific. They find that notwithstanding poisonous symptoms have followed applications to large burned surfaces, its toxic action is comparatively slight when injected into the urethra. They used a solution varying from 1 to 200 to 1 to 100 and twenty to eighty drops at each injection. They are able to report on twenty-nine cases—twelve were tuberculous and seventeen were due to other micro-organisms. They were all cases which had failed to respond to such agents as protargol, silver nitrate and copper sulphate. Of the

tuberculous cases, two were cured, seven were somewhat benefited, two were made decidedly worse and one showed no effect whatever. Of the simple chronic urethritis cases, thirteen were no doubt cured, two markedly improved and two showed no effect whatever.

Acoine (Di-Paran-Isyl-Para-Phenetyl-Guanidin Hydrochlorate)—the newly introduced local anæsthetic alluded to here last year—has not received any very marked prominence.

Dr. Trolldenier of Dresden, Germany, is still carrying on a series of experiments, chiefly on dogs and rabbits, which seem to verify the previous reports that it is less toxic than cocaine and that its effects last several days.

The ophthalmologists naturally are the ones who continue to make the largest use of it. However the only prominent clinical observer who has reported is Mr. Robert Brudenell Carter of St. George's Hospital, London, England, in an article "On Acoine as a local Anæsthetic in Sub-Conjunctival Injections." He concludes "that it promises greatly to facilitate the treatment of some of the more intractable inflammatory infections of the eye and that it takes away the only serious objection to the employment of a method which, in properly selected cases, appears to me to be of great and incontestable value." (London *Lancet*, Vol. II for 1899, p. 1082).

Actol (Silver Lactate) has been practically unheard of in the current medical literature of the past year.

Airol (Bismuth Oxy-Iodo-Gallate) has received some little prominence during the past year by being classed in the list of those imported medicinal articles which have recently been classed by the Treasury Department as definite chemical compounds and therefore free of duty. There evidently must be a larger use for this agent than would appear from the reports in the medical literature. Few observers in this country have thought it of sufficient value to make any statement in print concerning it. The following two prominent observers have appeared in Europe, however. First "The Application of Bruns' Airol Ointment to Laparotomy Wounds" by Dr. Oscar Frankl of Vienna, Austria. He has made use of it in the treatment of the stitch-abscesses occasionally following a laparotomy, and concludes that the Ointment has some value as an energetic antiseptic, yet from his experience an Airol powder or gauze proved to be preferable, for he finds such a gauze will

absorb the secretions effectively whereas the ointment produces no such result. (*Centralblatt für Gynäkologie*, Vol. 24, p. 569).

The other article published was entitled "Remarks upon the Article by Frankl in the Preceding Number" by Dr. Walter Stoeckel of Bonn, Prussia. He reports that in the Bonn clinic, Bruns' Ointment has always worked with satisfaction not only in laparotomy cases but in the treatment of other wounds. He also finds however that if dusted on in the form of powder it absorbs the secretions better. He however much prefers to use a simple Kaolin powder sterilized. He finally concludes that there are few better healing devices than the simple antiseptic bandages (*Centralblatt für Gynäkologie*, Vol. 24, p. 593).

Dr. A. Döderlein of Tübingen, Germany, also recommends and writes "Upon Bruns' Ointment as Material for Dressing Wounds." His proportion of satisfactory cases was 90%, and his number of cases was 400 (*Centralblatt für Gynäkologie*, Vol. 24, p. 689).

Amyloform—the patented substitute for Iodoform formed by the combination of Formaldehyde with Starch—has received practically no attention in the literature of the year.

Anæsthesia has rather increased as a topic for discussion throughout the past year.

Dr. Carl Ludwig Schleich of Berlin, Germany, seems to have recently confined his investigations to infiltration anæsthesia. He has recently contributed an extended and important article on this subject in the *Berliner Klinische Wochenschrift* (Vol. XXXVII, p. 269). He believes that this form of administration will eventually entirely supersede general anæsthesia in many cases. In his experience the infiltration method is entirely without dangerous effects, due chiefly to the extremely small amount of the anæsthetic used locally. Operations upon fibromata, angiomata, lipomata, superficial operations like tenotomies, transplantations and suturing of fresh wounds, offer the best opportunities for its use. He completely fills the skin and subcutaneous tissue all about the site of the operation with the infiltration liquid but infiltrates the tissue only as much as necessary. He minimizes the pain produced by the hypodermic needle by applying a spray of ethyl chloride. Even major operations have been attempted successfully—herniotomies and cœliotomies. In operations on boils, carbuncles or abscesses, he has found it necessary to infiltrate the surrounding healthy uninfamed tissues. The drugs chiefly used by him were cocaine and

its salts, tropococaine and nirvanin. Many operators have already made extensive use of this local anæsthetic in amputations, resections, operations on bones, gynecological operations, ophthalmic operations, urethrotomies, hydroceles, hemorrhoids and the like. In referring to general anæsthesia, he recommends the use of a special solution consisting of:

Ethyl Chloride.	1/2 to 2 parts
Chloroform	4 "
Anæsthetic Ether.	12 "

He puts on record the statement that he has used this mixture in about 5000 cases without any bad results.

The use of the originally proposed Schleich mixture has not yet entirely died out, for the wave of enthusiasm over it gradually spread westward, and was showing its effect in the middle-west a year ago.

Dr. Robert M. Stone of Omaha, Neb., read a paper before the Section on Surgery and Anatomy at the meeting of the American Medical Association in Columbus, Ohio, a year ago in which he very warmly advocates the use of the mixture. He however attributes his results to the small amount of the anæsthetic used which is accomplished by a special mask recommended by him (*Journ. Amer. Med. Assoc.*, Vol. XXXIII, pages 1123 and 1243).

Upon the publication of Dr. Stone's paper, the East was heard from again in that Dr. Walter Lathrop of Hazelton, Pa., felt called upon to express his opposition to Dr. Stone's conclusions, but states that he has "been a most ardent supporter of Schleich's mixtures, and have given them, I believe, a fair trial, and have reached the conclusion, before stated, that the danger is great, and apt to be sudden. I have had no fatal cases, but have had so many that required hard work to *restore breathing* that I feel justified in warning against its use." (*Phila. Med. Journ.*, Vol. 4, p. 1045).

Other mixtures to produce more efficient anæsthetic properties are still being employed.

Dr. Cosimo Noto of New Orleans, La., has contributed an article "On the Association of Paraldehyde with Chloroform. A New Contribution to Study of Mixed Anæsthesia." Naturally Dr. Noto claims such a mixture to be superior to all other mixed anæsthetics. His experiments have been up to this time confined to six dogs, and have not yet been attempted with human patients. He claims that

one of the chief practical advantages in the use of Paraldehyde is based on the fact that when administered before the Chloroform is inhaled it aborts that rebellious and fretful condition noticed in patients when being forced to undergo Chloroform anæsthesia. Chloroform excitement has thus been completely suppressed, and the profuse salivation and vomiting did not occur. Dr. Noto looks forward to the future possibility of anæsthetizing without danger not only those patients who have heart disease but those in whom the administration of Chloroform is otherwise contraindicated (*New Orleans Med. and Surg. Journ.*, Vol. LII, p. 495).

Dr. S. Ormond Goldan of New York City, has published a supplementary article on the claims of the three anæsthetics "Nitrous Oxide; Ether; Chloroform" in a somewhat extended article, and closes with these remarks: "In conclusion, I think no one will deny that it is more the method employed and skill displayed in administering anæsthetics than the particular anæsthetic used that in most cases leads to the favorable termination of and rapid recovery from the operative procedure, whether long or short, in which the anæsthetic is more or less a factor. This is fully realized by anæsthetists, but rarely by the occasional administrator, who, as a rule, pays little attention to details upon which so often the patient's life depends." (*N. Y. Med. Journ.*, Vol. LXXI, pages 629 and 673.)

A very valuable and interesting symposium took place at a meeting of the New York County Medical Association on February 19th last in which the different departments of the subject were taken up by prominent observers: "Selection of Anæsthetic in Surgery" by Dr. John A. Wyeth of New York City, "The Amount of the Anæsthetic" by Dr. Thos. L. Bennett of New York City, "Nitrous Oxide and its Modifications in Prolonged Surgical Operations" by Dr. S. Ormond Goldan of New York City, "Experiences with Ethyl Chloride in General Anæsthesia" by Dr. James P. Tuttle of New York City. An interesting discussion followed in which Dr. H. A. Hare of Philadelphia took part (*Journ. Amer. Med. Assoc.*, Vol. XXXIV, pages 705 to 712). Shortly after this meeting Dr. John D. Thomas of New York City published a short note correcting a reference made at the above meeting to a supposed fatal case from the administration of Nitrous Oxide. In his note he attempts to prove that death was not caused by the anæsthetic (*Journ. Amer. Med. Assoc.*, Vol. XXXV, p. 511).

Analgesia produced by the injection of small quantities of cocaine hydrochlorate into the spinal canal according to the method of Dr. August Bier of Kiel, Prussia (alluded to here last year) has received considerable attention. Drs. A. Matas, F. A. Larue and Hermann B. Gessner of New Orleans, La., have successfully applied this intraspinal method in one particular case in the Charity Hospital of their City. They report that an internal hemorrhoid was clamped, a groove made around it with scissors and a ligature applied after two injections of 1 Cc. (16.2 minims) each of a one per cent. solution, when the distal portion was cut off—all of which was accomplished without any pain whatever. Anæsthesia of all the lower extremities was noted.

Dr. B. Schiassi of Budrio, Italy, reports having performed three major operations under intraspinal anæsthesia. He amputated a leg, removed a cancer from the rectum and a section from the pubis after the injection of only 0.9 Cc. (15 minims) of a one per cent. solution of hydrochlorate of cocaine to which was added a very small quantity of sulphate of morphine. The quantity of cocaine and morphine injected was so small that the general effects were not manifest, but the local effects below the point of puncture were very marked (*La Sémi. Méd.*, Vol. 20, p. 94).

Dr. Th. Tuffier of Paris, France, reported to the Paris Biological Society at its meeting on November 11th, 1899, his hospital experience with injections beneath the arachnoid in the lumbar region. He exhibited a woman on whom he had performed a tedious vaginal hysterectomy. He made use of the equivalent of 15 milligrammes (about $\frac{1}{4}$ of a grain) of hydrochlorate of cocaine which produced anæsthesia. He reported another similar case at the meeting on November 29th with like results, and stated that he obtained complete satisfaction in quite long operations on the anus, the rectum, perineum, urethra, bladder and even in cystitis (*La Presse Médicale*, Vol. 7, second half, p. 151 of the Society Reports).

A rather new field for this operation has been attempted in obstetrical work. It apparently was brought about by the inability to procure, on short notice, an assistant to take charge of the anæsthetization. Dr. Oskar Kreis of Basel, Switzerland, has reported on six cases of labor, two of which called for the forceps in which this form of injection was used. Complete analgesia was obtained of all the parts below the ribs which was kept up long enough to not only perform ordinary obstetrical operations but to complete spon-

taneous delivery. He calls special attention to the fact however that anæsthesia is not obtained. The sense of touch and control of the muscles were retained by the patient. There being no pain due to the pressure and distension, voluntary muscular action does not aid in the expulsion of the head, for the patient does not "bear down." Dr. Kreis reminds his readers that in the case of an excitable woman general anæsthesia may be preferable for obvious reasons, and he would therefore possibly limit this form of anæsthesia to only those cases where either an assistant cannot be obtained or it is desirable for other reasons to dispense with him (*Centralblatt für Gynäkologie*, Vol. 24, p. 724).

Dr. William E. Lower of Cleveland, Ohio, reports the case of the amputation of a leg under this form of anæsthesia, at a meeting of the Cleveland Medical Society on February 23d last. The amputation was made at the middle third of the left leg, and for definite reasons general anæsthesia could not be employed. Complete anæsthesia of both foot and leg was produced after injecting a syringeful of solution of hydrochlorate of cocaine ($\frac{1}{8}$ of 1%) between the last dorsal and the first lumbar vertebræ. In about three minutes complete anæsthesia was obtained and the operation was performed with no evidence of pain. In the discussion which followed Dr. R. J. Wenner called attention to the danger which might follow from injecting the solution into the substance of the cord. Previous operators had injected into the subarachnoid space (*Cleveland Journ. of Medicine*, Vol. V, p. 118).

The administration of Ether as an anæsthetic has taken a very marked step forward during the past year or two and especially last year. It has apparently either displaced or is being used in equal amounts to Chloroform in many quarters. It thus becomes important that its quality should be carefully looked into, and all the definite requirements to maintain a high standard be fully complied with. The quality of the Ether as supplied by all manufacturers has largely improved, but no doubt can be still further improved. The present revision of the Pharmacopœia now being carried on is therefore looked to for an advance in the line of critical tests. One of the most important U. S. P. tests is that for foreign odors, but from evidences developed within the last year or two this test needs amendment. The Pharmacopœia demands as follows: "If 10 Cc. of it be poured, in portions, upon clean, odorless blotting paper, and allowed to evaporate spontaneously, *no foreign odor*

should become perceptible when the last traces of Ether leave the paper." The Ether usually offered now-a-days to the surgeon does not contain enough foreign odor in the prescribed 10 Cc. to be detected by the most acute sense of smell. However when as much as from 50 to 100 grammes ($1\frac{3}{4}$ to $3\frac{1}{2}$ ounces) of some grades of Ether which has passed this test, has been used in an operation occupying the ordinary length of time, and most of it respired by the patient and thus saturated with the lung vapors, the air of the operating room will have a distinct foreign odor in proportion to the uncleanness of the Ether. This foreign odor is rarely altogether absent from even very good Ether but varies considerably in amount. In short operations the odor would scarcely be perceptible, for the opportunity for accumulation had not been given. This odor is always disagreeable, and when in considerable amount is nauseating, especially to a patient saturated with the anæsthetic. On general principles every patient who undergoes Ether anæsthesia is liable to subsequent nausea and vomiting. This condition proves to be quite remarkable and cannot always be accounted for, but in a general way may be expected without surprise in proportion to the amount of the foreign odor discoverable by tests. The number of patients who have actually suffered from this bad symptom has diminished in the last few years, but the proportion is still not far from 25%, but possibly may be as low as 20%. This diminution is probably due to better management by the anæsthetist, which includes the use of a far smaller proportion of the anæsthetic, and again in a less degree to the improvement noticeable in the quality of the Ether used. The still further diminution in the development of this bad symptom may then be reasonably expected to continue from the above improvements alone. Of the large majority of patients who escape this bad symptom there must be many who only escape by a slight chance. In conditions so sensitive therefore, it is easy to understand that the presence or absence of the nauseating foreign odor becomes very important as deciding for or against the bad symptom, and the degree in which this nauseating foreign odor may be present will decide how many of the majority of patients will be influenced unfavorably by it. From the above reasoning therefore it is well to bear in mind the great importance of clean Ether, and that the Ethers of the market which may pass this odor test may yet give nauseating results. The Revisors of the Pharmacopœia should now be urged to im-

prove at least this one test in order to still further eliminate the objectionable hydrocarbon impurities. It is difficult to know exactly how to proceed to discover a more sensitive test other than using large quantities of Ether to obtain the proportion of foreign matter after evaporation. This would be an expensive requirement and therefore might be rarely carried out.

Another new inhaler has recently been offered to the profession by Dr. George R. Fowler of Brooklyn. A description and cut will be found in the *N. Y. Med. Journal* (Vol. LXXI, p. 177).

Aneson (Tri-Chlor-Pseudo-Butyl-Alcohol)—the local anæsthetic brought out some time ago as a substitute for cocaine—has received little or no attention in the medical literature of the past year.

Aniodol is the short name which has been adopted for the name of a solution which is described in a very unsatisfactory and loose way as a solution of formalic and allylic derivatives. It is apparently a solution of trimethanal with a derivative of the allylic series and then taken up with a specially prepared glycerin. It is claimed to be a powerful bactericide. To sterilize instruments a solution of 1 to 2000 is the strength necessary and is reported not to affect the operator's hands. When used as an injection and for dressings, a solution of 1 to 5000 appears to be sufficient. The laryngologists are reported to make use of it in solutions of $\frac{1}{2}$ to 1%.

Dr. Sedan claims this agent to be non-toxic and yet a most powerful antiseptic (*Rev. d'Hygiène et de Police Sanitaire*, Vol. XXII, p. 154). For the treatment of skin affections it is offered in the form of a soap. In the strength of 1 to 3000 it has been used as a urethral injection in the treatment of gonorrhea.

Antinosin (Sodium salt of Tetra-Iodo-Phenol-Phthalein) appears to be still used by many observers but it is generally classed with other agents so that it is often difficult to draw any definite conclusions as to whether it is of more value than some others or only of equal value. The surgeon still makes use of it in the treatment of all forms of ulcers, and the ophthalmologists and laryngologists resort to its use.

Dr. Edwin Klebs of Chicago, Ills., in contributing an article to the symposium on "Diphtheria" before the Section on State Medicine at the annual meeting of the American Medical Association at Columbus, Ohio last year, recommends for local treatment the use of such mild, non-irritating antiseptics as chinisol of the

strength of 1 to 1000 or Antinosin in a 2 per cent. solution (*Journ. Amer. Med. Assoc.*, Vol. XXXIII, p. 1520).

Antipyrin (Phenazone) hardly needs any notice here on account of its very extensive and well-known use throughout the world. However one use a little out of the ordinary line is in the treatment of pertussis. Dr. Charles Gilmore Kerley of New York City read a paper before the Section on Pediatrics of the New York Academy of Medicine on February 8th last on "Drug Values as observed in the Management of 752 cases of Whooping Cough." He enumerates the various agents tried and finally concludes that while the bromides were probably of much value, Antipyrin was found to be the best, and when these two agents were given together they seemed to control the affection more effectively than either one alone. He found that the most effective dose for an eight months old child was 30 milligrammes ($\frac{1}{2}$ a grain) of Antipyrin and 130 milligrammes (2 grains) of sodium bromide every two hours (*Archives of Pediatrics*, Vol. XVII, p. 270).

The following may interest some readers. In the *Chemist and Druggist* of May 19th, 1900:

"Reference was made to the recent decision given by the Paris Court of Appeal with regard to the lawsuit which has been going on for some years between the Syndical Chamber of Pharmacists of the Seine and the Société Parisienne de Couleurs d'Aniline concerning the right of the latter company to the exclusive use of the word 'Antipyrine' in virtue of a trade-mark taken out by them. A decision in favor of the company had already been given by a lower Court, but the Court of Appeal gave a contrary judgment, practically on the ground that the name of a pharmaceutical product cannot be protected by a trade-mark when such name is not a fancy word but indicates the scientific nature of the product. As the case is one affecting the question of trade-marks in France, the following details of the recent judgment given against the company will be interesting:—

On January 27, 1897, the Syndical Chamber of Pharmacists of the Seine brought an action against the Sté. Parisienne de Couleurs d'Aniline with the object of nullifying the trade-mark consisting of the word 'antipyrine,' registered by the company on February 16, 1888. Judgment was given in favor of the company on the ground that the inventor or proprietor of a pharmaceutical product can secure the exclusive right to the use of the name of such

product, on the condition, however, that it is not an everyday and necessary article and does not reveal either the nature or special virtue of the product. The Judges of the lower Court considered the word 'antipyrine' to be a purely fancy word chosen as such by Dr. Knorr, the inventor of the product, who might have selected any other name. Also the Sté. Parisienne, who control the product in France, have never ceased to claim their right to use the word, so that it cannot be said to have fallen into the public domain. The legal effect of this decision, which is now under appeal, remains to be considered. No pharmaceutical product can be patented in France, but if it can be protected by a trade-mark the effect is to all intents and purposes the same. But in order to make such trade-mark valid the denomination must be purely a fancy one, and not one that would show the special nature or medical virtue of the product indicated. If it were otherwise, every manufacturer of a pharmaceutical product would easily find a way of evading the law. Under these circumstances the only point to be examined is to know whether the word 'antipyrine,' supposing it to have been regularly registered by the Sté. Parisienne de Couleurs d'Aniline, is a fancy word arbitrarily chosen in view of a legal registration, or if, on the contrary, it was intentionally adopted by Dr. Knorr in order to introduce the product to the medical world, and to answer the requirements of therapeutics. Everything points to the fact that the latter course was adopted by Dr. Knorr, and that the word 'antipyrine' was intended to designate clearly a specific remedy against fever, as indicated by its etymology. Antipyrine is also used as an energetic dolorifuge, and as such the Société claims it might have been registered as a trade-mark under the word 'analgesine,' but this name would have revealed one of the virtues of the product.

The judgment included costs against the Société both for the first hearing and the appeal. The case will probably come before the Court of Cassation, but it does not seem likely that the finding recently given will be revised." (*Chem. and Drug.*, Vol. LVI, p. 951).

Antitoxins to be used in the treatment of disease still remain a most important topic in the medical literature of the world. They have actually forced into existence an entirely new scientific industry. The standardization by the various manufacturers is carried on with the utmost care and skill. It requires a special line

of training to produce the bacteriologists and chemists necessary to put forth a standard article which the practitioner may have confidence in, and it is quite out of place for those ill-advised humanitarians to claim that the horses suffer, for the evidences are quite convincing that the animals are very well treated as to feeding, grooming and exercising, and are exempted from any heavy labor. It is rational then to expect a rapid improvement not only in the quality and uniformity of the serum but in the exactness of therapeutic results.

Prof. Ehrlich has recently shown that there are two distinct substances in the serum, one a sort of digesting ferment which serves to actually kill the bacteria, and the other to simply fasten the former to the bacteria. To the former he has given the name of "end body" or "complement." To the latter, the "between body" or "immune body." These two bodies appear to be powerless when alone and even when together they must be in proportionate amounts. The "immune body" does not appear to be found in the proper proportionate amount in the normal organism and only appears in much larger amount during immunization from infection. This constitutes an "immune serum." To cure an infection then by means of this serum a sufficient amount of the "immune serum" and of the "end body" is necessary to destroy the bacteria. If the proper proportions are not present infection is not retarded. Dr. A. Wassermann of Berlin, Germany, has written an article concerning these developments (*Deut. Med. Wochensch.*, Vol. XXVI, p. 285). He claims that in previous investigations only one of these factors, the "immune serum" has been considered, and therefore the results have not been what was expected, even when this was supplied in great abundance, for the reason that the other factor was entirely overlooked. The one benefit which was noticed and which was quite limited was due to the action of the large quantity of the "immune body" with the small amount of the "end body" which was found then present in the organism. When this reaction was accomplished as far as it could go, there was no other use for the remainder (although still abundant) of the "immune body" and its usefulness was checked. Dr. Wassermann thus very rationally claims that the two bodies should always be supplied together in proper proportions in this form of treatment. He accomplishes this by injecting the normal serum at the same time as the "immune serum," and reports that he has carried on his experiments

sufficiently to prove his theory. He reports such results that many authorities think he has confirmed his point. He further discusses this whole topic at some length, bringing up the question of different forms of "immune bodies" and "end bodies," studying the question of how far one will co-operate with the other—for instance those of the horse, goat and ox. This entire question opens up a very interesting and promising field.

It is now some six years since the diphtheria Antitoxin was first put on trial, and whereas many observers are not yet converted it is difficult to disprove the many marked evidences of its efficacy. The statistics which have now accumulated to an extremely large number cannot be as completely ignored as was at first attempted by the skeptics. The general practitioner is becoming much more impressed with the importance of this form of treatment, and Medical Societies are giving this whole subject of Serumtherapy very prominent attention. A most notable instance occurred early this year in the form of a Symposium on Serumtherapy held at the N. Y. Academy of Medicine under the auspices of the New York County Medical Association on the evening of March 19th last, on which occasion Dr. Edward K. Dunham of New York City introduced the subject by reading some "Remarks on Serumtherapy." He closes as follows:

"When an animal has a natural or acquired immunity to a given bacterial infection, the bacteria which gain access to the body either simply fail to multiply and die, or they become swollen and rapidly killed. In either case, they fall a prey to phagocytes, which complete their destruction. Whether the failure to multiply is due to lack of appropriate nourishment, to a sudden change of environment, or to a direct germicidal and bacteriolytic action exerted by substances within the tissues and fluids of the body are still matters of controversy. It is possible that the final result is not always brought about by exactly similar processes. It is not quite germane to the present discussion to pursue this very interesting line of inquiry, and I shall therefore leave it without entering into further particulars.

In preparing this brief prelude to a series of papers that must necessarily prove much more highly interesting and instructive, I have chosen for the thread connecting my remarks the theory which appeared to me to include in a single conception the greatest number of details concerning a very complex subject. We are not

yet in a position to assert that a given poison when introduced into the system will necessarily provoke the production of antitoxic substances. All the theories relating to the subject, however suggestive, are still on trial, and we remain dependent on observation and experiment for those data which may prove of clinical value to the practicing physician and surgeon." (*Journ. Amer. Med. Assoc.*, Vol. XXXIV, p. 896).

Diphtheria continues to be probably the most prominent affection treated with Antitoxin. Dr. William H. Park of New York City spoke at the above meeting on the "Use of Diphtheria Antitoxin in the Treatment and Prevention of Diphtheria." He introduces his subject as follows:

"The final test of the value of diphtheria antitoxin in diphtheria is the results derived from its use. The difficulty, however, of knowing what would have been the course of a case, if antitoxin had not been used or had been used, is so great that it is well to gather proofs from other possible sources, as well as from personal experience. Therefore, I will consider certain facts derived from laboratory experience and from statistics."

His paper is a very interesting and quite convincing one for he writes in a very rational way. His conclusions are as follows:

"Whether some samples of serum may or may not cause, along with their beneficial effects, really serious deleterious effects is a question; still, we know that many samples of serum produce practically no disagreeable results. I have seen 60 patients treated with but one rash resulting. I have also seen twenty treated with ten rashes developing. To select good serum and throw away the irritating is only a matter of expense. At present I see no other way of eliminating rashes and other deleterious effects from substances in some sera.

In closing let me simply say that from my own almost constant observation of diphtheria during the past eight years, that is both before and since the introduction of antitoxin, I believe that the early use of antitoxin does great good in diphtheria, and that it should be used immediately in all patients where the onset is active without waiting for cultures. In mild cases already fully developed or on the mend when first seen the use of antitoxin is a matter of minor importance, as they will do well anyway. Let me also recommend its use in all suitable cases for immunization. It gives us a guarantee of at least two weeks of safety, and this period can

be lengthened at will by repeating the dose." (*Journ. Amer. Med. Assoc.*, Vol. XXXIV, p. 902).

Dr. W. S. Plotner of Turtle Creek, Pa., gives "Some Reasons why Antitoxin is Condemned, and how the Objections to its Use may be Overcome." He states that he has "had more experience in the treatment of diphtheria than any other single infectious disease: having passed through two fairly severe epidemics, which included in its spread my entire family, not excluding myself, and losing a child in the second outbreak.".....
 "I am satisfied from careful observation that the objections to the use of the remedy are mostly induced by ill results following its *unreasonable and unscientific* administration." (*Penn. Med. Journ.*, Vol. III, p. 410).

Dr. John S. Billings, Jr. of New York City, makes "A Plea for the More Extended Use of Antitoxine for Immunizing Purposes in Diphtheria" and draws the following conclusions:

"1. The increased number of cases of diphtheria in New York city in 1899 is probably due, in part, to neglect of a most important prophylactic measure against the disease—*i. e.*, immunization by antitoxine.

2. Immunization furnishes one of the most potent means of preventing the spread of diphtheria and lessening the number of deaths from this disease.

3. It is probable that in some cases the immunizing dose of antitoxine hitherto recommended (150 units) is insufficient, and that at least 300 units should be used in children and 500 in adults. Owing to improvements in the mode of preparation and the increased concentration of the antitoxic serums now in use no ill effects are to be apprehended." (*N. Y. Med. Journ.*, Vol. LXXI, p. 234).

It may be well at this point to record where the arguments of some of the prominent skeptics may be found. One of the most conspicuous of these is Dr. J. Edward Herman of Brooklyn, N. Y., whose claims for "The Other Side of the Antitoxin Question" were alluded to here last year. He now publishes "A Consideration of the Failure of Antitoxin in Operative Cases of Diphtheritic Croup" and concludes his arguments with the statement that an experiment had been "tried in Trieste by the physicians of that city, who in 1895 treated practically all cases of diphtheria in general with antitoxin. The result was that more patients died in that year than

ever before. Kassowitz called Baginsky's attention to this fact, and in reply Baginsky contented himself by saying he didn't know anything about the circumstance. It seems as if some optical perversion prevents him from seeing that which he does not want to see. When the foolish ostrich shoves his head in the sand to cover his eyes, that act does not mislead or extinguish his pursuer any more than this evasive answer deceives the profession or removes the above-mentioned fact." (*N. Y. Med. Record*, Vol. 57, p. 92). Later he continues his criticism in "A Reply to an Attempted Defense of Antitoxine" in which he concludes with these emphatic words:

"Seneca probably had in mind people resembling the fanatics now at large who advocate criminal prosecution of physicians for refusing to use antitoxine, when he wrote: 'Many persons might have attained to wisdom had they not assumed that they already possessed it.'

It is the earnest hope of the writer that these lines may act as a hammer to drive a few more nails into the coffin of the patented article called antitoxine with which the mercenary Behring is exploiting the medical profession." (*N. Y. Med. Journ.*, Vol. LXXI, p. 634).

Dr. Adolph Rupp of New York City comments on the paper of Dr. John S. Billings, Jr., and after considering in some detail Dr. Billings' various tabulations, concludes:

"Thus far, all that is certain about immunization in diphtheria is that it has not realized the promises and expectations of its original promulgators; and, although its alleged immunizing power has dropped from a six months' to a six weeks' duration, its calculated effective dosage has been more than trebled. Practically this does not look well for "the most potent means of preventing the spread of diphtheria." (*N. Y. Med. Journ.*, Vol. LXXI, p. 315).

On April 28th, 1900 Dr. J. S. Billings, Jr. published a short note in reply to some of the points brought up by Dr. Herman, and reiterated the fact that the figures he gave were official from the Health Department of New York City and included all the cases of diphtheria, regardless of the mode of treatment (*N. Y. Med. Journ.*, Vol. LXXI, p. 752).

Dr. Edwin Klebs of Chicago, Ills., advocates the use of Serum injections in the treatment of diphtheria, and claims that it "should be made in every case in which a diagnosis of diphtheria

can be made even with probability, but should not be registered as diphtheria until the diagnosis is made sure by microscopic or bacteriologic examinations." (*Journ. Amer. Med. Assoc.*, Vol. XXXIII, p. 1520).

Dr. A. Anderson of Sheffield, England, made a report on "The Serum Treatment of Diphtheria" in which he points out that the mortality was exceedingly high everywhere before Antitoxin was introduced and that it is now noticeable at this date that the character of the disease has very definitely altered, being less virulent than formerly. He notes that more throat affections are recognized as diphtherial than heretofore, and it is extremely unlikely that such a virulent disease should have become so benign in a few years. From his reading of the statistics he would draw the conclusion that the older methods had comparatively little effect on the death-rate whether treated as early as the first day or as late as the fifth. His description of how he meets various conditions will be interesting reading to those who desire to keep posted. (*Quarterly Med. Journ.*, Vol. VIII, p. 173).

At a meeting of the Medical Association of the Greater City of New York held on April 9th last, the subject for discussion was Diphtheria, and Dr. John Blake White of New York City read a paper on "The Diagnosis and Treatment of Diphtheria." He opens as follows:

"Believing that the time is now at hand when a careful investigation into the merits of treatment for diphtheria may be undertaken with some likelihood of reaching conclusions without prejudice, I have accepted the invitation to open this discussion to-night, with the hope that in the various opinions expressed we might definitely dissipate much of the darkness which surrounds the diagnosis and treatment of diphtheria.

.....

Statistics thus far have proved that among the host of remedies proposed for the treatment of diphtheria not one is entitled to superior confidence. There are local resorts with which of course we are all familiar, to dissolve the pseudo-membrane, and there are also others supposed to act antiseptically, and so bring about chemical changes to modify or annihilate micro-organisms.

.....

It is pleasing to note, however, a return of good sense abroad, and that the waves of skepticism are starting in various directions,

calculated to engulf the delusive claims of antitoxin in like manner as befell the fallacious lymph of Koch. In France the treatment is discredited, and recently the learned bodies in Moscow have denounced its fallacy in terms not to be mistaken. The *British Medical Journal* laments the fact that the weekly mortality in Paris from diphtheria shows a steady increase over previous years, notwithstanding the fact that antitoxin is 'universally used.' (*Pediatrics*, Vol. X, p. 41).

Dr. Henry D. Chapin followed with some remarks on "The Heart and Circulation in Diphtheria." He concluded that there can be no question that lives may at times be saved by keeping the patient quiet and at the same time properly supporting the heart. Next Dr. John Winters Brannan read a paper on the "Treatment of Diphtheria as Carried Out in the Willard Parker Hospital," speaking in favor of the use of Antitoxin. Dr. Joseph E. Winters however followed in opposition. Further discussion was held for and against its use, during which the President, Dr. Robert F. Weir of New York City, "said that it had been rather depressing to him to listen to such a discussion as that of this evening, because it brought home to him what he had met with in his own experience in surgery. None of the serums had proved satisfactory in their results. The last to try the confidence of the surgeon was the one which seemed most promising of all, namely, tetanus antitoxin. Last summer in the city of New York and its vicinity it was put to a most severe test, and it was found wanting." (*Pediatrics*, Vol. X, p. 58).

On the occasion of the so-called "Jacobi Festschrift" Dr. William H. Park of New York City read a monograph on "The Use of the Diphtheria Antitoxic Globulins of the Blood Serum Instead of the Entire Serum in Diphtheria." He introduced the subject as follows:

"Ever since the discovery of the value of diphtheria antitoxin in the prevention and treatment of diphtheria, it has been the desire of those using and producing the serum to separate the diphtheria antitoxin from the blood serum, with the hope that in this way the antitoxic effect might be retained, while the deleterious effects sometimes produced by injections of blood serum, as evidenced in the rashes and the effect on the red blood cells, might be avoided. As investigations progressed it has become more and more evident that the antitoxic substances in the blood are closely combined with

the globulins of the blood, and that whatever precipitates them precipitates the antitoxin also. In fact, without globulin there appears to be no antitoxin, and wherever antitoxin exists globulin does also."

.....
He apparently felt obliged to make the following summary:

"As a whole, these results are very disappointing, as this antitoxic globulin apparently contains the greater part at least of these substances which cause the more or less deleterious effects of the blood serum, and as there seems no probability of separating the antitoxic properties from the globulin, the present outlook for a substance which, while being a specific neutralizing substance for diphtheria, will at the same time be absolutely harmless, is not encouraging. What is true for diphtheria antitoxin is also probably true for other protective serums." (*Pediatrics*, Vol. X, p. 121).

Dr. Frank W. Wright of New Haven, Conn., made his Presidential Address before the New Haven Medical Association on January 17th last upon "Five Years' Experience in Private Practice with Diphtheritic Antitoxin Serum," during which 268 persons were treated with Antitoxin, of which 209 recovered and 59 died, giving a mortality of 22 per cent. His conclusions "are that diphtheritic anti-toxin serum usually cures favorable cases and often unfavorable ones, it prolongs life, lessens the severity of the disease, tends to prevent stenosis and the need for intubation in laryngeal cases, and when intubation is necessary it lessens the mortality; it prevents complications and sequelæ and materially shortens the course of the disease." (*Pediatrics*, Vol. IX, p. 236.)

Reports from some of the foreign observers may profitably be recorded here. Dr. A. J. Tonkin of Manchester, England, reports on "Two Hundred Consecutive Cases of Diphtheria Treated with Antidiphtheritic Serum." He draws the following conclusions:

"The foregoing figures and statements tend to establish the following results as to the use of antitoxin:—1. The general mortality rate is reduced. The mortality for cases treated during the first three days of illness is reduced to about 3 per cent. and that for all other cases to about 12 per cent. 2. Laryngeal cases treated early are markedly affected for the better, the death-rate being very considerably reduced. 3. The tracheotomy mortality is very much lessened. 4. There is less need for tracheotomy if treatment be begun early. 5. All ages and both sexes are equally affected. 6.

The chances of nephritis are lessened. 7. When treatment is begun early albuminuria may not appear, will probably not be severe, and will disappear soon. 8. Paralysis is lessened for cases treated on the first and second days of the illness. The paralysis mortality is much reduced. 9. Extension of disease to the larynx and parts below was not noted after injection of antitoxin. 10. The only disadvantage noted after its use was a slight discomfort for a few days from urticarial rashes and pains in the joints in a small percentage of the cases. The conclusions arrived at may be taken as a plea for early diagnosis and early antitoxic treatment." (London *Lancet*, Vol. II for 1899, p. 1082).

Mr. H. W. Mills of Ruardean, Gloucestershire, England, publishes "Some Notes on Sero-Therapy." Out of the total number of cases he reports upon, 76 were injected with Antidiphtheritic Serum—27 times for the treatment of existing diphtheria and 49 times prophylactically in cases of relatives who had been in close contact with diphtheritic patients. Two other cases were those of tetanus and puerperal fever treated by their appropriate Antitoxins "Of the 27 consecutive cases of diphtheria treated with anti-diphtheritic serum all recovered."

"In the 49 cases in which anti-diphtheritic serum was used prophylactically no case of diphtheria occurred, though the cases treated thus were all relatives (with the exception of myself and a nurse) living in close intimacy, sleeping in the same room and often in the same bed as a patient actually suffering from diphtheria, and inhabiting mostly small cottages. I have not the slightest doubt but that many of these cases would, if they had not been protected, have caught diphtheria. In several cases the children of a family succumbed one after another until the parents, fearing lest the whole family should be prostrated, finally and unwillingly allowed the rest to be protected by inoculation, when the progress of the disease was at once stopped and no further case occurred.

Finally, it seems to me that the prophylactic use of anti-diphtheritic serum confers complete immunity for a certain period—the length of which is not known—and should be resorted to as unhesitatingly as vaccination is resorted to in the case of the relatives and immediate attendants of a small-pox patient. There is no pain, no after effects, no interference with a person's ordinary pursuits, and, above all, it relieves the mind of nervous persons from the dread of catching diphtheria." (London *Lancet*, Vol. II for 1899, p. 1806).

Dr. T. G. Brodie of London, England, has carried on some experiments on "The Physiological Action of Diphtheria Toxin" in order "to determine the more immediate effects of diphtheria toxin, and to find the causes of death when this happens within forty-eight hours after an injection. Throughout these experiments cats were the animals usually employed." (*Brit. Med. Journ.*, Vol. II for 1899, p. 1282).

Dr. A. Jefferis Turner of Queensland, New South Wales, reports some interesting statistics on "The Diphtheria Mortality of the Three Principal Australian Colonies for the Past Fifteen Years with special Reference to the Influence of Antitoxin on the Death-Rate" showing a very definite reduction. (*Intercolonial Med. Journ. of Australasia*, Vol. V, p. 39).

An interesting discussion took place between the following English observers in London: Dr. F. de Havilland Hall, Dr. Richard T. Hewlett, Dr. N. Cullinan and the Hon. Stephen Coleridge on "The Statistics of the Antitoxin Treatment of Diphtheria." This will be found in the London *Lancet* (Vol. I for 1900, pages 1030, 1093, 1094, 1167 and 1168).

At a meeting of the New York Pathological Society on October 11th, 1899, Dr. W. H. Park of New York City stated that he had noted a very distinct change in the appearance of a diphtheria bacillus which had been under continued cultivation for some four years. He finds that it is now twice the length that it was, and has little appearance of a diphtheria bacillus. He obtained a photograph of its present condition.

There has been recently going on among some English observers, an interesting discussion on the comparison of diphtheria in man and "gapes" in birds which will be found in the *British Medical Journal* (Vol. I for 1900, pages 933, 994, 1506 and 1566).

The next important affection treated by its appropriate Antitoxin is probably tetanus. Unfortunately little definite progress has apparently been made with this form of treatment although sufficient encouragement is noted to not give up entirely. Much was looked forward to in the way of intracerebral injections but disappointment has occurred in many cases. In the way of a preventive the French veterinary surgeons report numerous successful results, particularly among those animals which are prone to develop tetanus after being operated upon. The attacks seem to take the form of

epidemics and these surgeons report that they have quite eliminated the disease. Dr. Ch. Dopter of Paris, France, has written a comprehensive paper on this subject, giving the statistics of his experiments on animals, and accompanied with a bibliography which will be of value to those who are following up this subject (*Gaz. des Hôpitaux*, Vol. 73, p. 493).

On account of the frequency of discouraging results, an attempt has been made to enumerate here all the successful cases that can be found in the prominent literature of the past year.

Dr. John D. Rice of New Eltham, London, S. E., England, reports "A Case of Tetanus Successfully Treated with Antitoxin" in which he states:

"There are three points of interest in the above case: (1) the large quantity of antitoxin required (110 cubic centimetres), due probably to the local seat of infection not being detected and excised; (2) the absence of any abscess at the seat of infection; and (3) no complications except an erythematous rash and an enlarged gland." (*London Lancet*, Vol. II for 1899, p. 1012).

Dr. E. B. Adams of Springfield, Mass., reports a case of a German boy 12 years old (*Phila. Med. Journ.*, Vol. 4, p. 1286).

Mr. Sheo Naudon Tiwary of Ajmere, India, reports the case of a boy of 16, having fractured his left leg a little above the ankle. (*Indian Med. Record of Calcutta*, Vol. XVII, p. 580).

Dr. G. Lloyd Roberts of Carnarvon, Wales, reports the case of a farmer 33 years of age, which he states presents features of interest and of some rarity apart from the question of treatment. (*Brit. Med. Journ.*, Vol. I for 1900, p. 1019).

Dr. C. H. Wise reports a case of tetanus treated with Antitetanus Serum and Chloral Hydrate in which large doses of the latter were tolerated. (*Brit. Med. Journ.*, Vol. I for 1900, p. 1406).

Dr. H. L. Van Natta of Seal, Ohio, reports the case of a girl five years of age who stepped on a rusty nail which penetrated the sole of her foot to the depth of half an inch, in which recovery took place. He draws the following conclusions:

"First, all poisoned wounds giving rise to tetanic symptoms should be thoroughly cauterized; secondly, I discontinued the antitoxin entirely too early. After getting a temperature of $99\frac{1}{4}^{\circ}$ the remedy should have been continued by giving at least ten cubic centimeters every eight hours until we had a normal temperature. It is very evident that the toxin is the cause of the fever, and it has

not been entirely destroyed until we have a normal temperature." (*Ther. Gaz.*, Vol. XXIV, p. 375).

Dr. Thos. Hunt Stucky of Louisville, Ky., reports two cases (*Amer. Pract. and News*, Vol. XXIX, p. 441).

Dr. P. A. Hilbert of Melrose, Minnesota, reports the case of a boy 12 years old whose feet were scratched by a wire fence, successfully treated (*New England Med. Monthly*, Vol. XVIII, p. 427).

Dr. v. d. Crone of Hohenlimburg, Germany, reports a case of a boy 8 years old who fell and sustained a severe lacerated scalp wound (*Deut. Med. Wochensch.*, Vol. XXVI, p. 51).

A discussion took place at a meeting of the Philadelphia County Medical Society on January 24th last in which Dr. E. Laplace reported "A Case of Tetanus Treated by the Subdural Injection of Antitoxin and Carbolic Acid, with Exhibition of Case." This was the case of a man 36 years old who after puncturing his foot with a rusty nail developed tetanus on the tenth day. Carbolic Acid injections hypodermically of a strength of 1 to 3 were also employed every three hours after the tenth day of the attack. The discussion which followed is interesting. (*Penn. Med. Journ.*, Vol. III, p. 497).

Another case of tetanus treated with Tetanus Antitoxin and Carbolic Acid is reported by Dr. G. W. Wagoner of Johnstown, Pa.:

"This case may be classed as one of chronic tetanus for the reason that the symptoms of the disease were not developed until 13 days after the injury. The prognosis is very much better in chronic than in acute cases. But a hopeful case may continue so long and cause so much suffering in spite of the usual remedies, that this case seems deserving of record because of the prompt relief and rapid recovery under the use of carbolic-acid injections, intelligent nursing and the resources of a modern hospital." (*Phila. Med. Journ.*, Vol. 4, p. 883).

Dr. E. Behring of Marburg, Prussia, has recently carried on a series of experiments upon animals which appear to demonstrate the necessity of direct contact of the Tetanic Antitoxin with the infected tissues, bringing it as closely into contact with the point of infection and its vicinity as possible. He would recommend it to be used in the uterus or in the vagina in case of puerperal tetanus. In cases of tetanus neonatorum he would apply in the peritoneum. In diphtheria he would make local applications, spraying the nasopharynx with diluted Antitoxin, used in addition to the injections. (*Die Therapie der Gegenwart*, Vol. 41, p. 97).

The following cases in which intracerebral injections were employed may be recorded. Mr. Charles Firmin Cuthbert of Gloucester, England, reports his notes on a case thus treated which although fatal he fully believes that sufficient encouragement has been given by previous observers to continue this line of treatment. He states that although his case did not terminate in recovery perhaps this is all the more reason why it should be reported. (*Brit. Med. Journ.*, Vol. II for 1899, p. 1413).

Dr. Paul Jacob of Berlin, Germany, publishes his "Clinical and Experimental Experience in Intradural Injections" (*Deut. Med. Wochensch.*, Vol. XXVI, p. 46).

Dr. Albert Kocher of Bern, Switzerland, reports two cases of intracerebral injections. One the case of a man 32 years old injured on the head twenty-seven days previously who recovered, the other a five year old child injured on the eyelid a week previous who finally died. (*Correspondenz-Blatt für Schweizer Aerzte*, Vol. XXX, p. 107).

At a meeting of the New York Surgical Society held on November 22nd last, Dr. Robert Abbe of New York City read a paper on the "Effects of Intracerebral and Subcutaneous Administration of Tetanic Antitoxin in Tetanus as Observed in Nine Cases" of which four recovered. His results would show that this form of treatment is a valuable adjuvant and claims it superior to the subcutaneous method. (*Annals of Surgery*, Vol. XXXI, p. 366).

Drs. M. Loeper and R. Oppenheim of Paris, France, have published the results of some interesting observations in the way of a comparison between hypodermic and intracerebral injections of Antitetanus Serum. (*Archiv. Gén de Méd.*, Vol. III, new series, p. 426).

At a meeting of the Royal Medical and Chirurgical Society held in London on January 9th last, Mr. Alexander G. R. Foulerton and Dr. H. Campbell Thomson contributed a paper giving the results of an investigation into the nature of the changes produced in the nerve cells of the cerebral cortex by the action of tetanus toxin. From their experiments they would conclude that the changes occurring were not the same as those produced by pneumococcus, glanders and the other infections tried. (*London Lancet*, Vol. I for 1900, p. 98).

The treatment of snake-bite continues to receive considerable attention although the reports vary considerably. It is reported

"that the Madras Government has passed an order sanctioning the excess expenditure over the original grant of 600 rupees incurred by Capt. R. H. Elliott in connection with the prosecution of his researches into the properties of snake venom, and has made him an additional grant of 200 rupees to cover the cost of further experiments. The Surgeon-General has been requested to report if Capt. Elliott's services will be available for special duty at the end of September when his tour of service terminates." (*Nature*, Vol. 62, p. 301).

Dr. Walter Myers of Cambridge University (England), repeats the information now on official record that 20,000 persons are reported to have died from snake-bite in India during the year 1898, which would show the importance of studying the process of neutralization of such a toxin. He therefore makes a report from the Pathological Laboratory of the University on "The Standardisation of Antivenomous Serum" (London *Lancet*, Vol. I for 1900, p. 1433).

Major S. J. Rennie of Meerut, North-West Provinces, India, reports a "Case of Snakebite Treated with Calmette's 'Antivenene Serum': Recovery", in a Hindoo boy 12 years old with typical symptoms. (*Brit. Med. Journ.*, Vol. II for 1899, p. 1412).

Mr. Arthur Beveridge an English surgeon reports a case treated by Dr. Calmette's Antivenene which recovered five days after the injection. (*Brit. Med. Journ.*, Vol. II for 1899, p. 1732).

The treatment of leprosy by injections of Calmette's Antivenene has been attempted. Dr. R. S. Woodson, U. S. A., Fort Clark, Texas, has published a preliminary note on this form of treatment. (*Phila. Med. Journ.*, Vol. 4, p. 832). He follows this up with a more extended report. (*Phila. Med. Journ.*, Vol. 4, p. 1231).

A short note is published from Dr. Albert S. Ashmead of New York City, pointing out some of the errors made by Dr. Woodson. (*Phila. Med. Journ.*, Vol. 5, p. 81).

The so-called Antityphoid Extract of Dr. V. Jez of Vienna, Austria, is still on trial. It has been reported in a casual way that eight cases were treated in the University Hospital at Zürich, Switzerland, resulting in rapid improvement and freedom from the fever within four days. One other very severe case which had a duration of three weeks with a temperature as high as 40.5° C. (105° F.) recovered in seven days, although a relapse occurred which also responded to the same treatment.

Dr. Dyce Duckworth of London, England, publishes his "Notes on a Case in which Antityphoid Innoculations were Practised." Dr. Duckworth simply reports his case to add to the stock of knowledge respecting this line of treatment, "and, if possible to encourage its further adoption in the hope of securing a sufficient degree of prophylaxis against the invasion of enteric fever." (*Brit. Med. Journ.*, Vol. II for 1899, p. 1407).

The study of the prophylactic inoculation of Antityphoid Serum has received considerable attention among English observers, particularly in relation to their unfortunate experience in the South African War. Many hundreds of their troops have died from typhoid fever.

Dr. A. E. Wright and Major W. B. Leishman of the Netley School (England) now report and summarize the more important results which have been obtained up to date by the application of such inoculations. Those interested in this line of study will find this report very carefully drawn and quite complete (*Brit. Med. Journ.*, Vol. I for 1900, p. 122).

An interesting friendly criticism on the above report is made by Mr. Francis H. Welch of Lee, England (London *Lancet*, Vol. I for 1900, p. 338).

Dr. R. W. Marsden of Manchester, England, reports on his experience with the inoculation of Typhoid Vaccine among the patients and nurses of the Monsall Hospital in his City. His conclusions are as follows:

"I am well aware that the time which has elapsed since the adoption of the prophylactic measure is too short to draw any conclusive inference, yet the results so far observed are, I think, sufficiently marked to warrant this report, and even embolden one to hope that, at any rate for a limited period, either an immunity against typhoid can be thus produced, or at least one may give "an increased power of resisting infection by living typhoid bacilli." (*Brit. Med. Journ.*, Vol. I for 1900, p. 1017).

Dr. T. Wilson, an English practitioner, describes his plan of inoculating men belonging to the City Imperial Volunteers. He makes them abstain from alcohol for three days, take an aperient on the morning of the fourth day and inoculates them on the morning of the fifth day. The men are arranged daily in batches of about forty in number. The first lot to be inoculated are rather "funky" and a few almost faint while waiting for their turn. These he keeps

back until the following morning, when they usually appear to be all right. He reports in detail an illustrative case showing the course of illness following inoculation (*Brit. Med. Journ.*, Vol. I for 1900, p. 1018).

The study of the yellow fever bacillus continues to receive some attention although few definite results have been reported during the past year.

Dr. A. Matienzo of Tampico, Mexico, reports on some "Experimental Tests at Vera Cruz, Mexico, of the Doty-Fitzpatrick Serum for the Prevention and Cure of Yellow Fever", and draws the following conclusions:

1. Both intravenous and subcutaneous injections of the serum produce a general reaction, revealed by the hyperthermia and acceleration of the pulse.

2. The injections, both subcutaneous and intravenous, neither controlled the disease nor manifested in the patient the least reaction upon the appearance, development or duration of the symptoms of yellow fever.

3. It is not possible to form conclusions on the inoculation of the preventive toxin on account of the small number of cases and the short time employed.

4. The reaction caused by the injections of the toxin in the convalescents of yellow fever demonstrates Sanarelli's assertion that the curative powers of the serum, in animals, is not due to the anti-toxin substances; and confirms by its analogy to the typhoid serum the opinion, given by some bacteriologists, that the icteroides is an Eberthiform bacillus." (*Med. News*, Vol. LXXVI, p. 45).

One of the papers read at the Symposium on Serumtherapy at the meeting of the New York County Medical Association held on March 19th last was by Dr. Charles B. Fitzpatrick of New York City who contributed some "Remarks on the Bacterial Therapy of Yellow Fever." He was present that evening in place of Dr. Alvah H. Doty, the Health Officer of the Port of New York, who has made a considerable study in this line and whose work was alluded to here last year. His remarks took the form of a few extracts from a report which he was preparing on this subject together with observations collected from other investigators. He summarized as follows: "The serumtherapy of yellow fever is still in the stage of investigation and does not appear to warrant any conclusions other than that the blood-serum of the bacillus icteroides does not

cure nor modify the disease, and that further investigation is necessary." (*Journ. Amer. Med. Assoc.*, Vol. XXXIV, p. 905).

Prof. E. Maragliano of Genoa, Italy, has continued investigations with Antituberculous Serum, proving to his mind that the favorable results obtained from the experiments on animals have been confirmed on human beings (*Berliner klin. Wochensch.*, Vol. XXXVI, p. 1073).

Nothing has apparently been heard since last year from Drs. E. L. Trudeau and E. R. Baldwin of Saranac Lake, N. Y., who have been enthusiastic workers in this line. No doubt they are still investigating but not quite ready to make any definite report.

"A Case of Infective Endocarditis Treated by Anti-Streptococcic Serum, Nuclein, etc.," has been reported by Drs. R. Hingston Fox and E. Augustus Lermite, two English observers, in which however death resulted. "The case unhappily progressed from the first to its fatal end little influenced by the treatment used. The record as to the efficacy of anti-streptococcic serum and nuclein is therefore a negative one, but inasmuch as these remedies received a thorough trial the facts are now published. So far as the experience of a single case goes it points to the uselessness of the serum when no streptococci, but only staphylococci, are found in the blood." (*London Lancet*, Vol. II for 1899, p. 1225).

At a meeting of the Harveian Society of London on November 2nd last, Dr. J. W. Washbourn read a paper upon the treatment with Antistreptococcic Serum. "He pointed out that the determination of the identity of various streptococci was a difficult matter. After reviewing the evidence he believed that there were distinct varieties of streptococci only distinguishable by their behavior towards serum; these varieties might produce either the same or different lesions in the human subject." After he had described the methods of preparing, standardizing and administering the Serum, an interesting discussion followed (*London Lancet*, Vol. II for 1899, p. 1299).

Another one of the papers of the Symposium on Serumtherapy read at the meeting of the New York County Medical Association on March 19th last was by Dr. Howard Lilienthal of New York City who spoke on "Antistreptococcus Serum." He states that three years ago he reported his observations based on his experience with five or six cases and from his acquaintance with the subject since, his views have not been modified. Also "that the serum

rarely if ever did harm, and that in desperate cases the patient should be given the benefit of this treatment in connection with other and better known therapeutic measures." He further states that he has not met with much encouragement.....

"As a final word it must be admitted that the efficacy of the remedy as now prepared has not been proved.

Treatment by the antistreptococcus serum is most strongly indicated in the presence of systemic infection by living streptococci, but the prognosis still remains bad. Antistreptococcus serum may be used in any case of grave sepsis when the exact bacteriologic diagnosis is in doubt, but never to the exclusion of other rational therapy." (*Journ. Amer. Med. Assoc.*, Vol. XXXIV, p. 906).

Dr. R. B. Mahon of Ballinrobe, County Mayo, Ireland, reports "A Case of Septic Thrombo-Phlebitis Treated by Injections of Streptococcus Antitoxin" in which he states that "there seems no reason to doubt the good resulting from injections of the antitoxin of streptococcus pyogenes." (*Brit. Med. Journ.*, Vol. I for 1900, p. 1220).

A French observer reports the successful use of the diphtheria Antitoxin in the treatment of pertussis—decreasing the severity and frequency of the coughing attacks (*Journ. de Méd. de Paris*, Vol. XI, p. 90).

Drs. J. W. H. Eyre and J. W. Washbourn of London, England, now report "Further Experiments with Pane's Antipneumococcus Serum." They previously described in detail some experiments on the protective properties of this Serum prepared by Dr. Pane of Naples. These investigators thought it advisable to extend their researches in the direction of testing the Antipneumococcus Serum against several varieties of the pneumococcus derived from different sources and have embodied their results in a report they now make. Their conclusions are as follows:

"1. The serum in doses of 1 c.cm. possesses for rabbits a considerable protective power against four out of five strains of pneumococci derived from different sources.

2. It has no protective power against one strain which in morphology, virulence, and cultural characteristics is a typical pneumococcus, and which was obtained from a fatal case of pneumonia.

3. There exist varieties of the pneumococcus which at present can only be distinguished by the action of antipneumococcus serum." (*Brit. Med. Journ.*, Vol. II for 1899, p. 1247).

In "A Preliminary Note on Antipneumococcus Serum", Drs. Joseph McFarland and Clarence W. Lincoln of Philadelphia, Pa., introduce the subject as follows: "Knowledge of pneumococcus infection and immunity, and the evolution of 'antipneumococcus serum' have been of slow progress and along paths beset with many difficulties." (*Journ. Amer. Med. Assoc.*, Vol. XXXIII, p. 1534).

In the Symposium on Serumtherapy at the meeting of the New York County Medical Association held on March 19th last, one of the papers read was by Dr. Alexander Lambert of New York City on the "Use of Antipneumococcus Serum." He states:

"The pneumonia serum at present does not seem to shorten the duration of the disease, nor cut short the pneumonic processes in the lungs, nor bring about the desired 'crisis.' But it does seem, in certain cases, to prevent a general pneumococcus septicemia, and thus in these cases it may save life.

There are problems in obtaining pneumococcus serum which at present baffle and puzzle us, and whether these can be solved can not be answered yet. This is no cause for discouragement, but simply one for continued work. Until we can obtain a serum which will distinctly cut short the disease processes, the antipneumococcus will be limited in its use and its usefulness." (*Journ. Amer. Med. Assoc.*, Vol. XXXIV, p. 900).

In "A Preliminary Report on the Etiology of Scarlatina" Dr. R. H. B. Gradwohl of St. Louis, Mo., reports on his investigations in searching out the bacterial cause of scarlet fever. He claims to have isolated the diplococcus scarlatinæ previously discovered by Dr. Class of Chicago, Ills. (*Phila. Med. Journ.*, Vol. 5, p. 683).

Dr. William J. Class of Chicago, Ills., has followed up his investigations as to "the specific causative factor of scarlet fever." He concludes as follows: "In regard to my belief in the germ itself, it will be seen from this communication that I have not lost any faith in regard to its being the cause of scarlet fever, and I feel confident that if other observers will give the matter a fair, unprejudiced investigation that they will arrive at the same conclusion." (*Phila. Med. Journ.*, Vol. 5, p. 1421).

Dr. Marx of Berlin, Germany, has published a "Contribution upon Hydrophobia Immunity", reporting the results of his experiments upon 41 rabbits, 4 guinea pigs, 1 dog and 1 goat (*Deut. Med. Wochens.*, Vol. XXV, p. 671).

In the Symposium on Serumtherapy at the meeting of the New

York County Medical Association held on March 19th last, Dr. Robert J. Wilson of New York City spoke on "Antirabic Serum in Therapy." He opened his remarks with the statement that "Up to this date attempts to inaugurate a serum treatment for rabies have not, so far as we know, proved successful." In alluding to the experiments of Professors Tizzoni and Centanni he states:

"The report of their work showed a high degree of protective action in the serum. The method of inoculation of their test animals, however, is open to criticism and can not fail to cast a doubt in the mind of the reader as to whether the protective effect of the serum was rather apparent than real. This doubt is emphasized when we find that the serum is to be used only in conjunction with the already recognized effective preventive inoculations. There is a class of cases, however, where the serum, although of only doubtful value, might be used, that is, in cases where a long time has elapsed between the time of infection and the commencement of treatment."

.....

"The serum, unlike the attenuated virus, which depends on certain changes in the organism after inoculation to procure immunization, gives its protective action immediately on administration." (*Journ. Amer. Med. Assoc.*, Vol. XXXIV, p. 905).

It is reported that Pasteur has discovered an "Anti-Anæmic Serum" concerning which a definite report no doubt will soon follow.

Professors Broca, Sapelier and Thiébaud made a report to the Paris Academy of Medicine at a meeting held on December 26th last, on the discovery of a so-called "Anti-Alcoholic Serum" which took rather a sensational form throughout France, and little hope is expected from their researches.

In the Symposium on Serumtherapy at the meeting of the New York County Medical Association held on March 19th last Dr. William B. Coley of New York City contributed a paper on "The Mixed Toxins of Erysipelas and Bacillus Prodigiosus in the Treatment of Sarcoma." He concludes as follows:

"In estimating the percentage of cures, or rather, in estimating the value of the method by the percentage of cures, it is well to remember that the treatment is advised only in cases in which there is no hope of cure by operation, in other words in entirely hopeless ones. In a number of cases in which the only operation to be con-

sidered was amputation, the arm or leg has been saved for the patient by the use of the toxins. In my own series, in a very large number of cases treatment was given only after the disease had reached such an advanced stage that there was practically no hope of more than temporary improvement. The fact that even one case of inoperable sarcoma has been cured would seem entirely sufficient to offset the disappointment of a hundred failures. If instead of saving only 1 per cent. there is a probability of saving more than 12 per cent. of these otherwise hopeless ones, we certainly have sufficient encouragement to continue the method. It is but a short time since 12 per cent. of success after operation for cancer of the breast was regarded as a brilliant result. I believe a most promising field, and one that to the present time has been little developed, is the use of the toxins in small and safe doses directly after operation, as a prophylaxis against future recurrence." (*Journ. Amer. Med. Assoc.*, Vol. XXXIV, p. 906).

Considerable has been written for and against the wisdom of admitting the Serums into the various National Pharmacopœias. One of the latest advocates for their recognition is Mr. Joseph W. England a prominent pharmacist of Philadelphia, Pa., who offered his views in a paper read before the American Pharmaceutical Association at its meeting held in Richmond, Va., last May. (*Pharm. Journ.*, Vol. XI, Fourth Series, p. 239).

The recent Convention for the Revision of the U. S. Pharmacopœia held in Washington, D. C., had the subject under discussion. and it was finally concluded that as physiological tests for determining strength were still so indefinite and variable, they should not be introduced into the Pharmacopœia by the Revision Committee. This resolution which was passed would of itself have excluded the Serums, but in addition the exclusion was finally confirmed by a formal vote when the practical side of the question came to be considered. It is most important that the medical profession in particular should realize that as neither the physician himself, the pharmacist nor the chemist can make these Serums, the whole responsibility must depend upon the large manufacturer, so that no definite formula can be prescribed in the Pharmacopœia whereby a verification of the manufacturer's product can be obtained. Even though the pharmacists, for instance, were furnished with tests for a rough estimation, the physician would not accept such a package after it was once opened. He would insist

with such a product in obtaining an original package, having been sealed before it left the manufacturer's possession.

Antitussin (Di-Fluor-Di-Phenyl) is not a new compound but it has not received any very marked attention during the past few years. There are however occasional observers who report on its beneficial use in pertussis.

Dr. Max Heim of Düsseldorf, Rhenish Prussia makes a favorable report (*Berliner klin. Wochens.*, Vol. XXXVI, p. 1102). He has used an ointment made according to the following formula:

Antitussin	5 parts.
Vaselin.....	10 "
Lanolin.....	85 "

He covers the neck, breast and back between the shoulders with this ointment and rubs it well in. He uses for each application an amount equal to about the size of a walnut. He prepares the skin first by washing well with warm soapsuds and drying with a rough towel. Out of his sixteen cases reported upon, nine apparently were already in the convulsive stage. Three of these were between the age of three and eighteen months and in a dangerous condition. Dr. Heim verifies the favorable experience of the previous observers, Fischer and Beddies, in its use upon the throat and pharynx.

Argentamin (Ethylene-Diamin-Silver Phosphate)—the Silver Nitrate substitute—has received little attention in the medical literature of the past year. It is however still being used among the genito-urinary practitioners. The only prominent observer reporting is Dr. Bergel of Inowrazlaw, Prussia. He much prefers its use in gonorrheal urethritis to solution of silver nitrate (*Therap. Monats.*, Vol. XIV, p. 361).

Argonin, the bactericide formed by mixing Silver Nitrate with a combination of Sodium and Casein, has not received much attention in the medical literature of the year. The only prominent observer reporting is Dr. T. A. Hopkins of St. Louis, Mo., who makes a report on "Argonin: Its use in Acute Urethritis." He states that since the first of the year he has "treated 12 cases of acute anterior urethritis of an unquestionable specific nature with Argonin, and in each case the recovery was prompt and without complication."

"In each case treatment was continued with Argonin, or Argonin

and an astringent injection, until the urethra recovered its normal tone. In no case was the continuation of treatment necessary beyond three weeks—as a rule, a week or ten days after the disappearance of the gonococci seemed to effect an entire cure.”

“Regard for the general welfare prompted me to keep the patients longer under observation, and in no instance has there been a return of the trouble.”

“These are results which I have been unable to secure with other treatment, and, considering the fact that there was an absolute absence of irritation from the treatment in most cases (and in all it was inconsequential), it is one that I shall use farther.”

“In its use complications are rare. By way of disadvantages but one can be urged against it, and that is the necessity of frequently making new solutions. With age the solutions become worthless, even though kept in amber bottles, and no others can be used; fresh solutions are necessary every second or third day. (*Amer. Therapist*, Vol. VIII, p. 139).

Aristol (Di-Thymol-Di-Iodide) is in such general use now that little special comment is made in the current literature. Nothing of particular importance therefore can be recorded here.

Aspirin—derived from the action of acetic anhydride on salicylic acid—has continued to receive attention as a so-called anti-rheumatic agent.

Dr. F. C. Floeckinger of La Grange, Texas, and connected with the Rio de Janeiro City Hospital in Brazil as surgeon, publishes “An Experimental Study of Aspirin, a New Salicylic-Acid Preparation.” He carried on a series of experiments upon animals and upon his own person. He claims:

“One great advantage of this remedy over salicylate of sodium is that it is much more agreeable to take, and even during its prolonged use no aversion was experienced. As is well known, articular rheumatism is a protracted disease, and the discontinuance of salicylate of sodium is always followed by an exacerbation. By the administration of aspirin with sugar or in wafers it never becomes necessary to suspend the use of the drug in consequence of gastric irritation, and hence a cure can be obtained at an earlier period. The only disadvantage of the preparation is its insolubility.”

He concludes as follows:

“In general, I would remark that aspirin is a most valuable sub-

stitute for salicylate of sodium for the following reasons: (1) Its agreeable taste. (2) Its freedom from irritating effects upon the stomach. (3) The absence of tinnitus aurium after the administration of physiologic doses. (4) The absence of cardiac depression. (5) The fact that it does not impair the appetite, even during prolonged use.

I feel certain that other investigators will be able to demonstrate the advantages of aspirin, and should the price not be too high it will soon displace salicylate of sodium." (*Med. News*, Vol. LXXV, p. 645).

Dr. L. Goldberg of Berlin, Germany, reports that he has found complete relief from a single dose of Aspirin in cases of facial neuralgia, vertigo, tinnitus aurium and headache as well as in rheumatic affections (*Deut. Medizinal-Zeitung*, Vol. XXI, p. 229).

Dr. Friedeberg of Magdeburg, Prussia, reports that he finds this agent quite as efficient and sometimes even more efficient than salicylic acid. He finds it less effective in chronic rheumatism and gout than in acute articular rheumatism. His experience in neuralgic affections has varied somewhat. In a case where salipyrin had failed in treating sciatica, this agent proved effective. He advises that where salicylic acid is known to act unpleasantly this agent should be used from the beginning, so as not to upset the stomach or produce the ringing in the ears often caused by the former agent (*Centralblatt für innere Medizin*, Vol. 21, p. 369).

Dr. Karl Manasse of Wurtemberg, Germany coincides with Dr. Friedeberg's experience (*Therap. Monats.*, Vol. XIV, p. 246).

Dr. Herm. Liesau of Bremen, Germany, reports on "The More Extended Clinical Uses of Aspirin." He employed it in 80 cases including acute and chronic rheumatism, torticollis, sciatica, exudative pleuritis, pericarditis, rheumatic pains and the like. He noticed marked antipyretic, antineuralgic and diaphoretic effects (*Deut. Med. Wochensch.*, Vol. XXVI, p. 338).

Dr. E. Roelig of Nuremberg, Bavaria, has made use of this agent in 31 cases of rheumatic affections in which he avoided all other internal medication, and claims that it possesses all the favorable properties of the salicylates without the unsatisfactory ones (*Deut. Med. Wochensch.*, Vol. XXVI, *Therap. Beilage*, p. 6).

Dr. L. Renon of Paris, France, has used this agent in the treatment of the fever accompanying tuberculosis. He reports that in quite three-quarters of his cases the temperature has been reduced

from 1 to 3 degrees in the afternoon almost immediately after administration. He finds however that very copious sweating occurs which is apt to produce a temporary weakness which must be realized in advance as a probable sequence. This he claims to be the greatest inconvenience in the use of this agent. However after the temporary sweating has passed the patients claim that they feel much better (*Sem. Méd.*, Vol. 20, p. 221).

Asterol (a double salt of Para-Sulpho-Carbolate of Mercury and Tartrate of Ammonium) has been practically unheard of in the medical literature of the past year. It will be remembered that it is similar to Hydrargyrol (Para-Sulpho-Carbolate of Mercury) except that the Ammonium Tartrate in Asterol renders the latter soluble in warm water—a property greatly to its advantage. An additional advantage in this agent is that the watery solutions remain stable.

Benzosol (Benzoyl Guaiacol) has received little attention in the medical literature of the year. Only one prominent observer appears.

Dr. John North of Toledo, Ohio, has apparently made quite a study of creosote and its derivatives which would include guaiacol and its various compounds. Guaiacol Benzoate (Benzosol) seemed to give him the best results and he would therefore conclude that "In all forms of lung disease in which creosote or an intestinal antiseptic is indicated, Benzosol fulfills every indication better than any remedy I know of." (*Amer. Med. Compend*, Vol. XV, p. 645).

Bromides need hardly any attention here at this time, but it is thought that it may be of interest to record an article written by Dr. Archibald Church of Chicago, Ills., on "The Treatment of the Opium Habit by the Bromide Method." He hit upon the treatment, as he states, by accident. He concludes as follows:

"As compared with the difficulties of the ordinary methods that are pursued in correcting the addiction to morphine, it seems to me to be of very definite value in well-selected cases, and in such cases I should not hesitate, under appropriate conditions, to employ it. By appropriate conditions I mean full hospital facilities."

(*N. Y. Med. Journ.*, Vol. LXXI, p. 904).

Bromipin is one of the more recent substitutes for the alkalioid and salts of Bromine. Little has been printed as yet concerning its exact composition and preparation but it is claimed to be a stable combination of bromine and sesame oil having an oleaginous

taste. It has been reported upon by several observers. It appears to be of special value in the treatment of neurasthenia, hysteria and epilepsy.

Dr. Kothe has used this agent in the treatment of epilepsy and gives an outline of his plan of treatment. He submits each case to a rest of some weeks with hygienic and dietetic treatment as a preliminary step. He administers no medicines until after some severe epileptic attack has terminated, which attack he has been waiting for. He then begins with a rectum injection of 15 grammes (231.5 grains) which is increased in the next six or seven weeks to 40 grammes (617.3 grains) when after a continuation of two or three weeks at this limit a gradual diminution is followed. It will thus be seen that the treatment extends over about three months. He is in doubt as to how much his success depends upon the Bromopin for he is a warm advocate of strict regularity and method of treatment (*Wien. Medizin Blätter*, Vol. XXIII, p. 237).

Dr. J. W. Frieser of Vienna, Austria, reports that he finds this a satisfactory substitute for the ordinary bromides as it does not affect the digestion and does not produce bromism. He has used it hypodermically in single doses of 10 grammes (154.3 grains) (*Klin.-Therap. Wochensch.*, Vol. VII, p. 645).

Bromoform has received less attention in the current medical literature of the year than in the year previous. Many observers find more favorable agents in the treatment of pertussis, but others again still maintain that this agent is most efficient.

In an article on "The Therapeutics of Pertussis", Dr. G. J. Kaumheimer of Milwaukee, Wis., reports most favorably upon the use of Bromoform in his treatment of forty cases, and expresses his preference for it. He administers it in drop doses—one drop for each year of age—from three to five times a day according to the severity of the case and its effects. He always cautions the parents and attendants about the necessity of shaking the bottle of Bromoform just before administering the dose (*Pediatrics*, Vol. VIII, p. 431).

Dr. T. Brown Darling of Edinburgh, Scotland, feels called upon to report the following case of Bromoform poisoning on account of the rarity of its occurrence even though the case recovered:

"On the morning of April 6th, 1900, I was urgently called to J. H., a girl aged 6 years, who had, at 8.30 A. M., in her mother's temporary absence from the bedroom; swallowed 3jss of pure

bromoform. She had taken a liking for it through having 2 drops on sugar thrice daily for whooping-cough. Immediately after swallowing the drug the child was observed to walk to the parlor for breakfast as if intoxicated, and then suddenly become unconscious. The parents meanwhile, having smelt the bromoform in the breath, very properly administered 3 ij of mustard in half a cup of water, and as this had not the desired effect, 3 j of ipecacuanha wine was given.

When Dr. McCheyne Miller and I arrived shortly afterwards, we found the child extremely collapsed and almost moribund. We could feel no impulse at the wrist, but the heart was beating very irregularly, about 120. The respirations were very shallow, about 8 a minute, and the breath had a strong odor of bromoform. There was a marked lividity of the face and lips; both pupils were pin-point and did not react to light, and there was no conjunctival reflex.

We at once washed out the stomach by means of a No. 11 rubber catheter with tube and funnel attached. The fluid returned smelt strongly of bromoform, and we continued lavage with warm water and sodium bicarbonate for an hour and a half, until there was no longer any smell of the drug. We then washed out with Condy's fluid, and gave some strong coffee and sal volatile both by the tube and *per rectum*. Sinapisms had also been applied to the precordia.

The pulse gradually improved, and the heart became regular. The pupils appeared now more normal, and even at times dilated, but unless we kept rousing the child they were apt to contract again. At 11 A. M. there were signs of returning consciousness, but there was the greatest tendency to sleep. At 11.30 the child was able to answer questions, the words at first being drawled out very slowly. I was able to leave the child in the parents' charge by 11.45, but she had to be kept from sleeping during the whole day. Her stomach did not retain anything till evening. Next morning she was in her usual health, and able to enjoy her food.

Regarding the amount of the drug taken (3 jss), I can vouch for it myself, as the 3 ij bottle had been renewed the previous evening, and there was only 3 ss remaining in it." (*Brit. Med. Journ.*, Vol. I for 1900, p. 1340).

Mr. Wilbur L. Scoville of Boston, Mass., offers the following suggestions for the administration of this agent:

"Will you kindly allow me to suggest to your readers a formula

for a bromoform mixture which has the advantage of containing a minimum of alcohol (or none), admits of accurate dosage, is susceptible to change in dosage without altering the proportion of the other ingredients. It admits also of adding other medicaments if desired, and is very palatable:

R Bromoform.....	3 ss	(about	2 grammes)
Tinct. Tolutanæ.....	3 i	(“	4 “)
Mucilaginis Acaciæ.....	3 ii	(“	8 “)
Syrupi	3 iv	(“	16 “)
Aquam Menthæ Viridis, ad.	3 ii	(“	60 “)

M Place the mucilage in the bottle, add an equal volume of syrup, then add the bromoform and tincture of tolu in portions, shaking well after each addition. A thin emulsion ensues, to which the rest of the syrup and the mint water are to be added, with agitation.

This emulsion slowly deposits, but without separation of bromoform or tolu, and can be quickly rendered homogeneous at any time by simple agitation.

The above formula contains two minims of bromoform per teaspoonful. It may be increased or diminished at will. If it is desired to eliminate alcohol altogether syrup of tolu may be employed in place of the tincture and simple syrup.” (*Pediatrics*, Vol. IX, p. 76.)

Camphor is still looked upon as such an important article, not only medicinally but chemically, that the previously reported attempts at procuring a monopoly of the crude product has now apparently been accomplished by the Japanese Government. One very good object attained by this concentration is the very marked industrial development of the Island of Formosa. Much capital has been put into the industry and improved up-to-date methods are being carried out under experienced Japanese officials.

Nothing new of any importance has appeared in the medical literature concerning the medicinal use of this article.

Castoria is a proprietary article probably too well known to need comment, but it is thought that it might be well to repeat here for the sake of ready reference the formula originally patented by Dr. Samuel Pitcher, about thirty years ago. The composition of the formula reads as follows:

Senna Leaves.....	135 lbs.
Sugar.....	210 "
Sodium Bicarbonate.....	48 ounces
Rochelle Salt.....	4 "
Spirit of Gaultheria.....	18 pints
" " Pumpkin Seed.....	2 ounces
" " Chenopodium.....	2 "
" " Peppermint.....	2 "
" " Anise.....	2 "
Water at 65° C. (149° F.).....	35 gallons

The sodium bicarbonate is dissolved in the 35 gallons of water at 65° C. and the whole portion of senna leaves is exhausted with this water until 240 pounds are obtained. The 210 pounds of sugar and the 4 ounces of Rochelle Salt are dissolved in this product, to which is added the various spirits.

Chinosol, the antiseptic, disinfectant, deodorizer and bactericide, has not been mentioned frequently in the medical literature of the year. Its local use however continues to be of some service. Among others Dr. Edwin Klebs of Chicago, Ills., reports having made use of it in the proportion of 1 to 1000 as a local antiseptic in the treatment of diphtheria (*Journ. Amer. Med. Assoc.*, Vol. XXXIII, p. 1520).

Drs. R. Kossmann and G. Zander of Berlin, Germany, have made use of a 20 per cent. solution of this agent with a 3 per cent. solution of carbolic acid, to sterilize the hands in midwifery practice. They claim that this agent is superior in efficiency to all other sterilizing agents. They claim that it has the additional advantage of being non-poisonous and produces no inflammation of the skin (*Centralblatt für Gynäkologie*, Vol. 24, p. 574).

Chloretone (Tri-Chlor-Buytl Alcohol) the hypnotic and anæsthetic introduced a year ago and alluded to here last year, is still being investigated and used to some extent.

Dr. R. D. Rudolf of Toronto, Canada, has been carrying on further experiments with this hypnotic and now publishes some "Notes on Chloretone." He summarizes his results as follows:

"1. Chloretone would seem, as has been found by Houghton and Aldrich, to be an ideal general anæsthetic for physiological work. Then we think there might be some doubt about the recovery of the animals, however, and this would limit its use to where recovery

is not desired. The preliminary use of chloroform or ether might be used here, but this increases the risk, of course.

2. It has little or no effect upon the pulse, respiration and blood pressure for hours, but eventually, if the dose be large enough, these become depressed and the animal dies, the heart stopping before the respiration.

3. Chloretone has a most marked and profoundly depressing effect upon the body temperature, lowering this more than any other drug with which we are acquainted, with the possible exception of alcohol. This depressing effect is evident before the animal is even drowsy, and is in ratio to the dose given. It may be partially prevented by keeping the animal very warm.

4. Any drug which can exert such an effect on the total heat of the body is one which requires to be used with great caution in medical practice. This is doubly important as the drug is very slowly got rid of, and we know of no antidote, with the exception, perhaps, of external warmth." (*Canadian Pract. and Review*, Vol. XXV, p. 295).

Dr. W. M. Donald of Detroit, Mich., has reported on this agent as a safe hypnotic, in that he has been able to produce a five to six days' sleep by the administration of 7.8 grammes (120 grains) with no bad or untoward effects (*Ther. Gaz.*, Vol. XXIV, p. 18).

Dr. T. A. Dewar of Detroit, Mich., claims that it has a "three-fold nature as a hypnotic, an antiseptic, and a local anesthetic, and in each field it is capable of fulfilling every indication more completely than any single representative of each of those respective classes." He reports on a few surgical cases occurring in his practice (*Ther. Gaz.*, Vol. XXIV, p. 98).

Dr. Warren B. Hill of Milwaukee, Wis., read a paper before the Wisconsin State Medical Society in June last on this hypnotic, and states:

"In conclusion, I would say that the nearest approach to my ideal hypnotic is found in chloretone. Its action is better understood than that of most of the others of its class, the sleep which it produces is the nearest to the physiological sleep of muscular fatigue, and its action is continued with decreasing doses, which fact reduces the tendency to form a drug habit to a minimum. Abundant clinical and laboratory evidence shows it to be the safest of all hypnotics. As yet there have been very little, if any, disagreeable after-effects reported from its use. As a local anæsthetic

it is ideal, combining, as it does, its anæsthetic with its germicidal properties, coupled with the fact that it has no deleterious effect upon repair procedures. With a feeling that this remedy has before it a brilliant future and a deserved popularity, I commend it to you for your careful consideration." (*N. Y. Med. Journ.*, Vol. LXXII, p. 284).

In a supplementary paper written by Dr. Reynold W. Wilcox of New York City on "Recent Advances in the Treatment of Insomnia", he states that he wishes to add the name of this comparatively new hypnotic which seems to meet all the requirements which he had foretold was necessary in the treatment of insomnia (*Med. News*, Vol. LXXVI, p. 563).

Cinnamon is still to be looked upon as an important medication aside from its efficiency as a condiment. Undoubtedly its use in the treatment of influenza alluded to here last year continues. A more recent use is in the treatment of all forms of tropical diarrhea, including dysentery. Dr. A. Norris Wilkinson of Twatutia, North Formosa, sends the following interesting communication from the Island of Formosa:

"In the Section of Tropical Diseases held at Portsmouth, Dr. Henderson of Shanghai in his address on Sprue or Psilosis mentions cinnamon as a remedial agent and also that he has found it useful for chronic diarrhoea; but I and also Dr. Myers of Takow, South Formosa, who first mentioned it to me, go further and use it in the powdered form systematically in all cases ranging from ordinary diarrhoea to severe cases of dysentery. But it must be recognized that at any rate in Formosa diarrhoea is a concomitant or perhaps a symptom of true malarial fever, and in severe cases of dysentery with the regular dysenteric stools there is also high fever, and I have found the plasmodium malarie in the blood of all. I always take quinine when I have slight looseness of the bowels, and I consider it a premonitory symptom of the disease, the diarrhoea stopping immediately after a few doses.

The first severe case of diarrhoea was in a lady seven months pregnant, which later became true dysentery. She was first treated with the ordinary astringent remedies and quinine, when the stools became so frequent and dysenteric, accompanied with tenesmus, that it gave rise to grave fear of premature birth, and the treatment was changed to ipecacuanha with the preparatory opium. Full term was safely reached, but four to five days later the old trouble re-

curred with fever. Large doses of quinine (30 grs. in the day) and ipecacuanha were again tried, but failure resulted; then cinnamon in teaspoonful doses was given, mixed with a little milk to mould it into the shape of a bolus, and chewed night and morning. A mixture of quinine sulphate, potassium bromide, and antifebrin was also given three times a day, combined with starch enemata containing opium and chloral. In a few days the patient was practically out of danger, though consecutively the liver, spleen, and ovaries became inflamed; in a few weeks she had quite recovered.

Another case is that of a Chinese boy, aged 18, who was having twenty to thirty motions containing blood in the day, accompanied with malarial fever. After taking the above quinine mixture with catechu and cinnamon, he was in three days quite recovered.

I use nothing but the above mixture here now for fever, as I cannot rely on quinine alone, and it also has a very beneficial action on the temporarily enlarged spleens one meets with in the course of fever, and even in the chronically-enlarged spleens if used in conjunction with small quantities of mercurial ointment." (*Brit. Med. Journ.*, Vol. I for 1900, p. 316).

Citrophen (Phenetidin Citrate) has not been reported upon in the medical literature of the past year.

Cocaine and its salts although, of course, much used during the past year have not increased their usefulness in many new fields. However Dr. P. Neustube of Kiew, Russia, has obtained very favorable results in the use of a 50 per cent. solution of the hydrochlorate in the treatment of the persistent vomiting of pregnancy. He would claim that it was the most successful agent in his experience. He explains its beneficial action in that it lessens the irritability of the vomiting center in the medulla, as well as in its anæsthetic effect on the stomach. He administers an initial dose of 10 drops, to be repeated in one hour. The next in 3 hours, if necessary. Later from 5 to 6 drops are given three times a day until the vomiting is under control. He uses in conjunction a mustard plaster application to the stomach, cracked ice by the mouth and a 2 per cent. ointment or solution of Cocaine in the form of tampons applied to the cervix (*Wien. Medizin Blätter*, Vol. XXIII, p. 133).

Dr. E. F. Clowes of Wotton-under-Edge, England, reports his most successful use of a 10 per cent. Solution of Cocaine Hydrochlorate in a case of rigid or slowly dilating os (*Brit. Med. Journ.*, Vol. I for 1900, p. 1340).

The addiction to Cocaine and the formation of a Cocaine habit is still all too prevalent, and in the opinion of many it is a more dangerous habit than even that of opium. Attention has been called to a new development in this line in our Southern States. The practice of Cocaine sniffing, particularly among the negroes, seems to be on the increase.

It would be of no special value to attempt to enumerate here even a small proportion of the various cases of Cocaine poisoning, therefore only two will be mentioned as possibly of interest to some observers studying this subject.

Dr. Bergmann of Wolfhagen, Germany, reports a case of acute Cocaine poisoning occurring in a patient suffering from sciatica, in which 1 Cc. (16 minims) of a 5 per cent. solution was injected into the gluteal region, and happening to strike the nerve, at once relieved the pain. A second injection, however, this time in the calf of the leg, produced alarming symptoms of poisoning. Dr. Bergmann argues that about the only way such a small dose could produce toxic effects is by entering directly into the circulation by reason of striking a vein (*Muench. Med. Wochensch.*, Vol. XLVII, p. 392).

A fatal case is recorded by Dr. Henry Ernest Knight of England, produced probably by at least 30 grains of Cocaine taken at one dose by a woman eight months advanced in pregnancy who had been addicted to the use of this article for two years without being observed (*Quarterly Med. Journ., for Yorkshire and adjoining counties*, Vol. VIII, p. 307).

Creosotal (so-called Creosote Carbonate) has still an extended use, particularly in the treatment of phthisical subjects.

Experiments however are being tried with some degree of success in the treatment of scrofulous affections and in ozoena. Further definite reports are awaited.

Creosote (Beechwood) continues to take rather a retired position in favor of the Guaiacols, but there are still some practitioners who make repeated use of it and find it still of value.

Dr. Frederick Cleveland Test of Chicago, Ills., has published some clinical observations on the use of Creosote in various conditions, stating that he relates these to by no means develop new facts but merely to show what may be regarded as interesting results in Creosote administration. He gives the clinical notes of ten cases, and believes that by so doing he may lend his influence in widening

the range of usefulness of this agent (*N. Y. Med. Journ.*, Vol. LXXI, p. 508).

Dr. Holland of San Moritz, Switzerland, in relating his experience in the treatment of pulmonary tuberculosis by drugs, enumerates many of the well-known agents which he tried and places Creosote at the head of the list, but comes to the following conclusion :

"For several years after Koch's discovery of the tubercle bacillus the writer gave a fair trial to the treatment by inhalations and sprays. One remedy was taken up after another, but I could not satisfy myself that any of them ameliorated the tuberculous condition. Indeed, in my opinion the best results were obtained by trusting to abundance of food and pure air, and now I have abandoned all attempts at curing tubercular disease by any so-called specific therapeutic agents." (*Ther. Gaz.*, Vol. XXIV, p. 6).

Dr. Irwin H. Hance of Lakewood, N. J., expresses about the same opinion when he writes on "The Use of Creosote in Pulmonary Tuberculosis." He opens the subject as follows: "The action of creosote upon tubercular processes in the lungs has long been a matter of controversy." He concludes as follows :

"I believe that scrupulous care as to diet and hygienic surroundings does far more than drugs to restore health in the early stages of phthisis, and in the advanced stages the patient frequently suffers more from the effect of drugs than from the disease itself." (*Ther. Gaz.*, Vol. XXIV, p. 7).

Dr. Malinowsky, a Polish physician, reports that he found the following mixture gave excellent results when applied in the form of a spray to the throat and nasal cavities in cases of scarlet fever and diphtheria :

Beechwood Creosote...	0.50	grammes (	7.7	grains)
Thymol	0.50	"	(	7.7 ")
Camphorated Alcohol..	25.00	"	(385.8	")
Spirit of Turpentine..	25.00	"	(385.8	")

The spray was used for ten to twenty seconds every two hours, when the false membranes would become detached in about twenty-four hours. Of course he advises the continuation of general treatment as is usually the case (*La Sem. Méd.*, Vol. 19, p. 384).

Creosote Carbonate (called at times Duotal for short) still appears to be the favorite form when giving Creosote.

Dr. Julius Pollak of Vienna, Austria, reports his experience with it in the treatment of pulmonary tuberculosis. His cases were

thirty-two in number. In twenty-seven, he reports that the appetite was markedly improved, in the remaining five however the administration had to be suspended after three weeks on account of the loss of appetite. This proportion in relation to the appetite is quite small and it is therefore urged as a valuable assistant to the usual dietetic and hygienic treatment (*Wein. klin. Wochensch.*, Vol. XIII, p. 59).

Dionin (Ethyl-Morphine Hydrochlorate) is the name given to one of the more recent synthetic local analgesics which has thus far been confined to ophthalmological practice. It takes the form of delicate colorless crystals which are usually offered in the form of a powder, readily soluble in water and alcohol.

Dr. A. Darier of Paris, France, brought up the subject at the Paris Ophthalmological Society in March last. His results were in the main excellent. His experiments included the use of other analgesics but they were all found inferior to this new agent. None of the recognized toxic effects occurring with most other agents were noted when Dionin was used. Dr. Darier reports that a 5 per cent. solution gives the best results (*La Clin. Ophthal.*, Vol. 6, p. 77).

Dr. A. Graefe of Berlin, Germany, publishes his clinical report on two hundred cases treated with Dionin. His conclusions are that favorable results may be looked for in all diseases of the cornea with the exception of those associated with trachoma; in diseases affecting the conjunctiva; in iritis; in iridocyclitis and in diseases of the vitreous humor. (*Deut. Med. Wochensch.*, Vol. XXVI, Therap. Beilage, p. 9).

Dr. Wolffberg of Breslau, Prussia, reports 21 operations for cataract in which he used Dionin. He found that this agent was an excellent analgesic but had little antiseptic properties. He found also as others have observed that combined with atropine it produced mydriasis more rapidly (*Therap. Monats.*, Vol. XIV, p. 237).

Dr. James W. Ingalls of Brooklyn, N. Y., reports that he has recently used this agent in two severe cases of iritis in which the pain was entirely relieved, and expresses his confidence in it as being a valuable local analgesic without any unpleasant constitutional effects. He reports that a 5 per cent. solution appears to produce considerable smarting and even violent sneezing in some cases. If the strength be reduced however to 2 per cent. no smarting or conjunctival swelling follow its application, and the results are quite satisfactory.

Dr. J. W. P. Smithwick of La Grange, N. C., has made use of this agent in the treatment of various forms of cough. He has applied it in 12 cases of chronic bronchitis, 7 of pulmonary tuberculosis, 3 of pertussis and 8 from various other causes. 16 were apparently cured, 9 were benefited and 5 showed no beneficial results. No toxic effects seemed to follow its administration, and although it proved to be an inferior analgesic to morphine, it had other advantages for it can be given without fear to children. No tendency towards forming a habit was noticed. (*Merck's Archives*, Vol. II, p. 214).

Dolomol Compounds, although so prominent in the medical literature of the previous year, have been little heard of during the past year.

Dormiol (the combination of chloral hydrate and amylene hydrate) which used to be called Amylene-Chloral, is still before the profession as a harmless hypnotic.

Dr. Ernst Schultze of Andernach, Prussia, is pushing his investigations in the treatment of various kinds of insomnia with this compound. His number of administrations now amount to over 1000 and sleep and rest have resulted in 75 per cent. of the cases. Its action was especially gratifying in cases of melancholia and hypochondria. The sleep produced lasted from five to eight hours without producing any unpleasant after-effects. He reports however that in a few cases of hypochondria headache was complained of on the day following its use. His average dose was 1.5 grammes (23.2 grains) and his maximum dose was 3 grammes (46.3 grains). In comparing the various hypnotics his experience would lead him to place this agent as equal to sulphonal or trional. He found all three valuable alternates. In certain cases one was found to succeed where the other failed (*Neurol. Centralblatt*, Vol. 19, p. 249).

Dr. J. Moir of Edinburgh, Scotland, publishes an article on "Dormiol in Insomnia" in which he reports five cases successfully treated (*Med. Press and Circ.*, Vol. LXIX, p. 573).

Dr. Peters, of Aachen, Rhenish Prussia, reports the results of his use of this agent for nine months. He administered it 45 times. In 20 cases of affections of the nervous system, 3 of those of the lungs, 1 that of the heart, 1 of the intestines, 5 of the kidneys, 2 of the liver, 1 of the peritoneum, 2 of the genital organs, 5 of the bones and muscles, 1 of the circulatory system, 2 of chronic poisoning, 2 of convalescence after influenza and scarlet fever. His minimum dose of 0.5 gramme (7.7 grains), and he rarely had to

increase it to 2 grammes (30.9 grains). His proportion in which it produced more or less deep sleep was 84 per cent. of his cases. He enumerates some of its prominent advantages as being easy to take, harmless within the range of the above dose, cheaper than the other hypnotics and fully as efficient as such agents as paraldehyde, amyl hydrate or trional. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 463).

The experiments on animals and its use in insane cases of human beings by Dr. E. Meltzer of Colditz, Saxony, were reported here last year, and it may be well to record at this time Dr. Meltzer's formula as being of value after his extended experience with it:

Dormiol	10.0	grammes	(154.3 grains)
Mucilage of Acacia..	10.0	"	(154.3 ")
Simple Syrup.....	10.0	"	(154.3 ")
Distilled Water.....	120.0	"	(about 4 fluidounces)

The mixture should be thoroughly shaken before administering. He calculates that a large tablespoonful contains 1 gramme (15.4 grains) of Dormiol.

Egol, the name given to a new class of antiseptics derived from the phenols, has not been heard of during the past year.

Endomentol (Nicotine Salicylate) has not been heard of in the medical literature of the past year.

Epicarin is the name given to a new combination produced by bringing together Beta-Naphthol and Creosotic Acid. This produces a condensation product which has been found of value by the dermatologists. It appears in the form of a yellow powder with a reddish tinge. It is readily soluble in alcohol and ether. It has been used in the treatment of psoriasis, eczema, scabies and other skin affections. It is recommended in the form of a 10 per cent. solution or a 10 to 20 per cent. ointment. From the successful use already noted in a limited way, undoubtedly more will be heard concerning it later.

Erythrol Tetranitrate (Tetranitrin) has not received much attention in the literature of the past year. However one investigator reports his short notes on some cases treated with this agent. For those who desire to follow up more closely its physiological effects, the pulse tracings of four cases which Dr. Hugh Walsham of London (England) gives will be interesting (*Brit. Med. Journ.*, Vol. II for 1899, p. 1259).

Ethyl Bromide (Hydrobromic Ether) seems to be still the favorite anæsthetic for short operations among many surgeons, but during the past year its sphere of usefulness appears to have broadened somewhat.

Dr. George R. Fowler of Brooklyn, N. Y., has used it as he states "to produce a comfortable preliminary condition of anæsthesia when surgical anæsthesia is to be maintained with sulphuric ether." His favorable experience encourages him to make further trials. He describes his procedure as follows:

"From one to two drachms of ethylic bromide are placed upon the inhaler, and, in from thirty to forty-five seconds, according to the freedom with which the patient breathes, the administration of the sulphuric ether is begun, without changing the inhaler, and proceeded with as in ordinary ether anæsthetization." (*N. Y. Med. Journ.*, Vol. LXXI, p. 640).

Dr. Walter R. Parker of Detroit, Mich., has published an article on the "Use of Ethyl Bromide as a General Anæsthetic." His cases were confined to his ophthalmic practice and numbered about one hundred. He claims that it is at least as safe as chloroform or ether, and is without their disagreeable effects (*The Physician and Surgeon* (Ann Arbor), Vol. XXII, p. 232).

Dr. Paul F. Sondern of New York City has written an article on "Ethylic Bromide as an Anæsthetic for short Operations" (*N. Y. Med. Journ.*, Vol. LXXI, p. 911). He emphasizes some particular points to bear in mind in giving this anæsthetic, and notwithstanding the necessity of precautions being taken he believes it to be one of the safest and best anæsthetics to use in such operations as "for adenoids and other short throat operations." He was led to a closer study of this anæsthetic by his six months' observation at the Hôpital St. Antoine in Paris, France. His remarks as to the usual process of manufacture being objectionable, is undoubtedly from the French standpoint, for that one as used in this country has been very successful for many years past and produces an efficient article. It is however very important that precautions against decomposition of the finished product should be strictly attended to. If a small quantity of finely divided metallic silver be put into each bottle of the anæsthetic when freshly made it will convert any free bromine which may be evolved, either by accident or from age, into an inert silver bromide. This harmless protective material permits of the ready use of the anæsthetic at all times, for when it is poured

onto a handkerchief or towel for inhalation no attention need be paid to the particles of silver bromide present. It will be in the form of either the metallic silver unacted upon or inert silver bromide, and therefore need not call for any precautions for its elimination on the part of either the physician or the patient.

Ethyl Chloride (Muriatic Ether) still continues to have few commenters in this country. Its use appears to be confined to the other side of the water. A pure grade of Ethyl Chloride has been given the name of "Kelene," and its use is quite extensive, particularly among dentists. It is put up in specially prepared long tubes holding from 10 to 15 Cc. (about $2\frac{1}{2}$ to 4 fluidrachms), one of which is claimed to be sufficient for a single local operation. A special mask is provided for when this pure article is given, in order to not only obtain the full effect but to avoid waste.

In an article entitled "The More Restricted Use of General Anæsthesia," Dr. Oscar Bloch of Copenhagen, Denmark, recommends the use of this agent for general anæsthesia either entirely or partly. He reports upon 393 operations in which he produced slight general anæsthesia with chloroform to the extent of just producing a quiet sleep and then following it up by complete local anæsthesia with this agent by practically freezing the site of the operation. If the patient happens to experience a little pain, a few more drops of chloroform are administered. His cases included those of herniotomy, tracheotomy, cholecystotomy, arthrotomy and empyema. He also enumerates 503 operations with Ethyl Chloride alone, and 115 operations without any anæsthetic whatever. He remarks upon the astonishingly small amount of chloroform needed even in major operations if his method be carried out. Out of his 393 patients 267 inhaled only 6 Cc. (less than 100 minims) of chloroform. His observations will be read with interest by those who are making a special study of anæsthesia (*Revue de Chirurgie*, Vol. XX, p. 58).

Dr. Georg Lotheissen of Innsbruck, Austria, in writing on "The Dangers of Anæsthesia With Ethyl Chloride", states that this anæsthetic stands next to chloroform in regard to its mortality. The statistics from chloroform anæsthesia gave one death in 2075, from Ethyl Chloride Anæsthesia one death in 2550. He repeats the observation of others in regard to its advantages in causing extremely rapid insensibility, very little discomfort to the patient and no unpleasant after-effects. He reports one case of death. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 601.)

Eucaïne (Benzoyl-Vinyl-Di-Aceton-Alkamin) has received a great deal of attention in the medical literature of the past year, therefore only a few of the prominent writers will be mentioned here.

Dr. William H. Poole of Detroit, Mich., read a paper before the Surgical Section of the Mississippi Valley Medical Association at Chicago, Ills., on October 6th, 1899, on the use of this agent as an anæsthetic in eye, nose and throat work. His conclusions are:

"1. Eucaïn is decidedly less toxic than cocain, therefore superior to it.

2. Its aqueous solutions keep well and can be sterilized by boiling without destroying the activity of the drug.

3. It produces anesthesia equally well and sometimes better than cocain.

4. It is superior to cocain in that it does not cause heart depression or other unpleasant effects.

5. It does not cause mydriasis or disturbances of accommodation, which is an advantage in some cases.

6. It is less dangerous to the cornea than cocain inasmuch as it does not cause desquamation of the superficial epithelium." (*Med. News*, Vol. LXXV, p. 521).

In a case of "Amputation Through the Arm vs. Excision of the Elbow; A Case of Conservative Surgery", Dr. Hermann B. Gessner of New Orleans, La., made use of Eucaïne-B infiltration anæsthesia in which most gratifying results followed, where excision was contraindicated on account of its inevitably fatal results. He concludes as follows:

"I believe this patient would have died on the table or during the course of the after-treatment had excision been performed at the time of his admission. On the other hand, delay, for the purpose of building him up, would likely have resulted in progressive degeneration of the kidneys. Amputation was therefore the operation to be chosen." (*Journ. Amer. Med. Assoc.*, Vol. XXXIII, p. 1407).

Mr. Arthur E. Barker of Harley-street, London, W., England, publishes "A Note on Some Further Experience of Operations under Local Analgesia Produced by Eucaïne B." He brings up a few points, which although noticed by every surgeon who has attempted to produce local analgesia by injection, may be of interest and profit to repeat here:

"At first the surgeon suffers from the feeling that he may be causing pain to the patient, and this is a certain check to his manipulations. There is something "uncanny" in making a dissection on an individual who is perfectly conscious and perhaps talking to you at the time, and it is hard to realise that he is not suffering and consequently the surgeon may hesitate. But when a few cases have been operated on in this way and we are sure of our position this hesitation wears off and we proceed more rapidly, to the patient's great benefit, of course. Some of the cases, I must say for myself, have filled me with amazement. The patients have appeared perfectly indifferent and very often in the best of spirits all the time. Even those who feel a little pinch or drag here or there make light of it as a rule. I heard one patient humming a tune to himself during a radical cure of hernia which I was doing."

.....
 "Selection will always be necessary, but I think that even from this limited number of trials I have learned much in this direction and that local analgesia will always be a useful procedure in certain cases, though it will not for a long time take the place of general anaesthesia. Of course the 53 cases tabulated above form but a small group in proportion to the number of operations done in the course of the year in which I have used general anaesthesia, but as far as they go they are fairly representative." (London *Lancet*, Vol. I for 1900, p. 156).

Dr. T. Vincent Jackson of Wolverhampton, England, reports the operation of "Suprapubic Cystotomy Painlessly Performed after the Hypodermic Injection of Eucaïne" in a man 50 years old. He concludes as follows:

"I publish this case as evidence of the great value which the employment hypodermically of a solution of eucaïne may be in the performance of a major operation which can be rapidly executed." (London *Lancet*, Vol. I for 1900, p. 928).

Euclinin (Euquinine)—the compound formed by the reaction between Ethyl Chloro-Carbonate and Quinine—is still being pressed forward to the attention of the medical profession, but little new has been stated during the past year. Much that now appears of value is in the way of results from previous observers.

Eudesmol, the crystalline camphor obtained from eucalyptus oil and thus closely allied to eucalyptol, has been practically unheard of during the past year.

Eudoxin (Bismuth salt of Nosophen) is still being employed in some quarters, but little new has been reported during the past year.

Eugenol (Eugenic Acid)—one of the oxidation products of oil of cloves—has not been commented upon in the medical literature of the past year.

Eugol—claimed to be a colorless solution containing B-Naphthol, Extract of Hamamelis, Eucalyptol, Salol, Menthol, Boric Acid and a small per cent. of Formaldehyde—has been practically unheard of during the past year.

Eulactol is the name adopted for a special preparation of milk and eggs which has recently been recommended by Dr. J. W. Friesser of Vienna, Austria as being in his experience one of the best concentrated foods for patients in a weakened and convalescent state. It is claimed to contain the proper proportion of proteids, fats and carbohydrates, and is recommended in 60 gramme (about 2 ounce) doses each day given in coffee. (*Klin. Therap. Wochensch.*, Vol. VII, p. 166). Reports from further observers are awaited.

Eumenol (claimed to be an Extract of the Root of the Chinese Tang-kui) is not attracting any attention in this country. Experiments were reported last year from Germany, but little has been heard of it since.

Eunol (a combination of Alpha or Beta-Naphthol and Eucalyptol) has not been heard of in the medical literature of the past year.

Euphthalmin (the Hydrochlorate of a Mendelic Acid derivative of Methyl-Vinyl-Di-Aceton-Alkamin) is still favored by some ophthalmologists as a substitute for atropine and homatropine.

Dr. Gaetano Vinci of Messina, Sicily, has made quite a practical study of this agent, particularly on animals—both cold and warm-blooded. (*Therap. Monats.*, Vol. XIII, p. 665).

Dr. Albert B. Hale of Chicago, Ills., read a paper before the Chicago Medical Society on January 24th last, enumerating the useful agents in ophthalmic practice in which he commented upon this article. He found a five to ten per cent. aqueous solution about the proper one to use. He would claim that it is the most acceptable mydriatic for not only the ophthalmologists but the neurologists and general practitioner (*Chicago Med. Recorder*, Vol. XVIII, p. 124).

Europphen (Iso-Butyl-Ortho-Cresol Iodide) needs hardly to

be mentioned here on account of its wide-spread use. Those who continue to make use of it do so now more or less as a routine practice.

Dr. Edmund Saalfeld of Berlin, Germany, has been one of the most enthusiastic investigators with this agent, and now again alludes to its value as a substitute for iodoform in about every class of case in which the latter would be indicated. He apparently prefers a mixture containing 9 parts of powdered boric acid to 1 part of Euphorben. He publishes the details of his treatment of 160 cases of chancres and other venereal sores. He again calls attention to its very prominent advantage of being practically odorless (*Therap. Monats.*, Vol. XIV, p. 139).

Exalgin (Methyl-Acetanilid), the analgesic which has received such prominent attention within the last few years, brings forth little comment in the medical literature of the past year.

Fersan is the name given to a new iron compound obtained from the red corpuscles of fresh ox blood, and is urged as being a most preferable form in which to administer iron, for all other forms apparently fail to give complete satisfaction. Its endorser Dr. Adolf Jolles of Vienna, Austria, states that it is a powder resembling chocolate and having a slightly salty taste. It is readily soluble in warm water, not coagulable by heat, passes through the gastric digestion unaltered, but is completely absorbed when it reaches the intestinal tract. It contains iron and phosphorus combined with about 80 per cent. of soluble albuminoids. It is apparently produced by treating the blood centrifugally and adding concentrated hydrochloric acid. This forms an albumose base and an acid albumin, which latter contains the iron and the phosphorus.

One of the recent observers who gives the details of his successful use is Dr. James Silberstein of Vienna, Austria, who writes "On a New Iron Preparation, Fersan" (*Therap. Monats.*, Vol. XIV, p. 369).

Another recent observer is Dr. Julius Pollak of Vienna, Austria, who writes on "A few New Medicaments in the Treatment of Phthisis." He has used it in 50 cases successfully (*Wien. klin. Wochens.*, Vol. XIII, p. 575).

Filmogen (Pyroxylin dissolved in Acetone and a small portion of Castor Oil added) has not been heard of in the medical literature of the past year.

Formaldehyde—the well-known antiseptic, disinfectant, de-

odorizer and germicide—has been largely commented upon apparently all over the world, and it would be quite out of the question to attempt to give here even an abstract of all that has appeared. Some of the main points therefore will only be alluded to in order to emphasize them. This agent and its 40 per cent. solution called "Formalin" has quite displaced sulphur dioxide, but it should be stated in behalf of the latter that apparently few realize the fact that water is necessary in conjunction with the vapor generated to produce effective results. Therefore steam should be generated in conjunction with it. The Health authorities in the prominent cities seem to be the most energetic workers in the line of general disinfection with this agent. The Chicago Health Department continues to push its investigations and is learning new points all the time. Accidents have recently been reported in Chicago from the use of Formaldehyde. It may be remembered that the fact was alluded to here on a previous occasion that the method there used was by spraying on sheets, and it is now noted that the vapors coming from these sheets have injuriously affected users of it—particularly the public officers undertaking the work. They may eventually find some better method than the sheet method, by discovering some form of generator to accomplish the results, but as long as they keep the proportion of accidents down as low as they are now doing, when the large number of disinfections is considered, the sheet should not necessarily be condemned.

Drs. R. Walther and Arthur Schlossmann both of Dresden, Germany, have continued their work in investigating the use of this agent. They have now made a report on "New Ways of Using Formaldehyde in Disinfecting Dwellings" (*Muench. Med. Wochensch.*, Vol. XLVI, p. 1535).

Dr. M. Friedemann of Britz, (near Berlin) Germany, has also experimented on the "Disinfection of Rooms with Formaldehyde." He used different forms of apparatus in a comparative way, noting how effective the disinfection was in each case. He pointed out the fact that all parts of the dwellings thus treated were temporarily rendered uninhabitable on account of the adherence of the Formaldehyde to the walls and furniture. He however believes in this method as being the most ready at hand, far the quickest and surely most practical (*Deut. Med. Wochensch.*, Vol. XXV, p. 828).

A report is made by Dr. A. W. Fairbanks of Boston, Mass., on some "Experiments upon the Disinfection of Rooms with Formal-

dehyde Gas in the City Hospital at Charlottenburg, Berlin", accompanied with remarks by Dr. Ernst Grawitz of Berlin. Three very complete experiments were tried and the cultures for such disinfection were carefully tabulated. The conclusions arrived at are entirely too long to take the space here to relate. Those who are particularly interested are referred to the *Boston Medical and Surgical Journal* (Vol. CXLI, pages 593 and 619).

Dr. John E. Walsh of Washington, D. C., read a paper before the Richmond Medical and Surgical Society on January 4th last entitled "Formaldehyde Disinfection", in which although convinced of the advantages of the sheet method of disinfection, he fully realized the fact that Formaldehyde vapor only destroys the organisms on the surface. (*Virginia Med. Semi-Monthly*, Vol. 4, p. 642).

Dr. John E. Owens of Chicago, Ills., Chief Surgeon of the Illinois Central Railroad Company reports on the "Value of Formaldehyde in the Disinfection of Buildings, Rooms, and Cars", in a paper read before the American Academy of Railway Surgeons in Omaha, Neb., last year. The discussion which followed is of interest (*Journ. Amer. Med. Assoc.*, Vol. XXXIV, p. 518).

Dr. Alexander von Rositzky of the Hygienic Institute of the University of Gratz, Austria, gives the results of his experience "Concerning a Simple Method for Clothes' Disinfection with Formaldehyde for the Practicing Physician." His plan appears to be very simple and can be undertaken with little trouble (*Muench. Med. Wochens.*, Vol. XLVI, p. 1372).

Naturally the surgeon proper should also find this agent of much value. Dr. G. E. Crawford of Cedar Rapids, Iowa, read a paper before his State Society at Des Moines on May 17th last on "Formalin as an Antiseptic in General Surgery, Gynecology, and Obstetrics." He makes use of a 4 per cent. solution and gives a table of working solutions made from it. He states:

"The conditions in which formalin is distinctively superior in every way to any other antiseptic is in the packing and drainage of pus cavities and sinuses, etc., the cases in which iodoform gauze has been so much employed. There is not a condition that I know of in which iodoform is used but formalin will answer the purpose better. Its inhibiting power is a hundredfold greater; it deodorizes a foul wound, whereas the other only adds a stronger and more disagreeable smell to the one already present.

Iodoform is one of the feeblest antiseptics—in fact, it must be sterilized itself before it is fit to use at all; and, if used freely, is more likely to poison the patient than the microbes. There is no good reason why this “skunk” of modern surgery should not be banished from respectable society. It has nothing better upon which to base its claim for the popularity it has so long held with the profession than the onion poultice has among the laity. Two years since I bought five yards of iodoform gauze and I have it yet, and expect it to be an abundant supply for all future use.

In obstetric practice formalin meets all the requirements of an antiseptic to disinfect the hands and the external parts, and as a vaginal douche when one is needed. In difficult deliveries, where there is a great deal of handling and bruising of the parts, or laceration of the perinæum or cervix, a daily douche of an eighth- or a fourth-per cent. solution is of great value. It purifies the parts, lessens the liability of secondary infection, and deodorizes the lochia, which become very offensive in some of these cases. A perinæum properly sutured invariably heals perfectly under this treatment, and an immediate operation on the cervix would be much more likely to be successful than with any other method. In these cases, as in all others, the innocuous character of formalin adds greatly to its merit.” (*N. Y. Med. Journ.*, Vol. LXXI, p. 1036).

Dr. Ely Van de Warker of Syracuse, N. Y., writes on “Formalin; Its Good and Bad Qualities.” He reports several poisoning cases in conjunction with the good results recorded (*The Amer. Therapist*, Vol. VIII, p. 85).

Favorable reports come from the field of veterinary medicine, in the treatment of bovine anthrax by injections of Formaldehyde solution. Favorable results have been reported heretofore, and now Dr. J. H. Bell brings out an additional one. He states that out of twenty-eight cases recently treated in this way twenty-two have recovered. Out of the six remaining cases, all of which died, four were hopeless when first coming under treatment. Dr. Bell injects 1 Cc. (about 20 minims) of a 1 to 1000 solution into the swelling. Such an injection is repeated morning and evening for three consecutive days, then once for three days. He advises to begin the treatment as early as possible to produce the greatest number of successful results.

Mr. F. Wyatt-Smith of Reigate, England, reports a case of rodent ulcer in a man 76 years of age which he treated successfully

with a 20 per cent. solution of Formaldehyde in glycerin and water (*Brit. Med. Journ.*, Vol. I for 1900, p. 194).

Dr. Adler reports his preference for the use of Formaldehyde solution in the treatment of excessive sweating of the feet. He admits that the treatment has to be repeated but this disadvantage is not a great one for the application may be readily and rapidly applied by means of a brush (*Deut. Med. Wochensch.*, Vol. XXV, Therap. Beilage, p. 65).

Encouraged by such a report as Dr. Adler made led Dr. H. Hirschfeld to make use of this agent in the treatment of the night sweats of pulmonary tuberculosis. He now reports his experience with its use in treating thirty patients by tanning the skin with an application of a solution made according to the following formula:

Commercial Formaldehyde (40%)	50 grammes	(1½ ounces)
Absolute Alcohol	50	“ (1½ “)

He applies the solution to different parts of the body alternately, applying a protecting covering over the part painted. The sweating is arrested almost immediately and that part of the body keeps free from five days to a month, after which the treatment is repeated (*La Sem. Méd.*, Vol. 19, p. 361).

It will be remembered, particularly by those residing in the neighborhood of New York City, that some experiments were tried with a so-called electrical cure for tuberculosis, contrary to the wishes and knowledge of the managing authorities at St. Luke's Hospital in that City. The scheme was to introduce into the system, by means of static electricity, a sufficient quantity of Formaldehyde solution to destroy the tubercle bacilli. Thirty per cent. of the more advanced cases and seventy-five per cent. of those seen early were claimed to be cured. The whole matter was pretty effectually hushed up on account of the way in which it was undertaken, and probably few now know the ultimate results obtained. The profession at large rather took the stand that the experiments were not being carried on in a truly scientific manner.

The report comes from France that patients suffering from influenza are being treated with inhalations of Formaldehyde Gas by confining them in isolated rooms for forty-eight hours. It is reported that the cough ceases immediately and they are relieved of the fever within twelve hours. The patients are then removed to another room which is free from this vapor, and this enables them

to be gradually brought back to ordinary conditions. This completes the cure.

Dr. A. G. Cipriana of Cagliari, Island of Sardinia, reports ten cases of otorrhea which he treated with a 2 per cent. solution of Formaldehyde, producing prompt relief. Although insufflations of a form of iodoform were employed as an adjunct in the treatment, he reports that he feels convinced that the complete relief was entirely due to the Formaldehyde (*The Therapist*, Vol. IX, p. 260).

Considerable has been written for and against the use of Formaldehyde for preservative purposes in various foods. Particular preparations of this article come by the trade names of "Conerine," "Freezine," "Milk Sweet" and "Preservative." The question has been brought into Court on more than one occasion in this country, and the ruling is generally against the use of such agents.

In England also the preservative question has been much agitated, and much has been written.

Dr. H. E. Annett of Liverpool, England, has written an article on "Boric Acid and Formalin as Milk Preservatives". His conclusions are as follows:

"From a consideration of the results of the above tests—chemically of the effect of boric acid and formalin on the different digestive ferments, and physiologically of the effect of these re-agents on the nutrition of young kittens—one is forced to conclude that these chemicals when used as preservatives of milk (and probably of other foods) are very injurious to the health of the consumer and particularly so to the health of young infants. Further, it is easy to conceive that the great infant mortality-rate from diarrhoea of many of our large towns may be closely connected with the practice, especially during the summer months, of systematically 'doctoring' milk by means of the preservatives used by milk-purveyors, dairymen, and milkmen. These experiments on young animals will constitute the first of a large series by which 'that sufficient information' as to the injurious effects of the use of preservatives in milk will be provided in order to make an action under the Sale of Foods and Drugs Act possible." (London *Lancet*, Vol. II for 1899, p. 1282).

Dr. Alexander G. R. Foulerton of Sutton, Surrey, England, has made a careful and quite extensive series of experiments on "The Influence on Health of Chemical Preservatives in Food." Formaldehyde is included in his list of preservatives. He concludes that

Formaldehyde "would probably have absolutely no injurious general effect in the proportions used, but would tend to lessen somewhat the digestibility of the milk. The necessity for legislation on this question lies in the fact that these preservatives are, in the quantities used, tasteless and so cannot be detected by the consumer. If, for instance, a preserved milk could be distinguished from fresh milk as readily as salted beef can be distinguished from fresh beef no necessity for legislation would arise. The consumer would know exactly the kind of article that he was buying, and there the matter would end. There would then be no more reason for prohibiting the sale of preserved milk than there would be for prohibiting the sale of salted beef on the ground that the latter was not suitable for making beef-tea for invalid diet. But since the public have no means of distinguishing between a fresh and a preserved milk special legislation does seem absolutely necessary. And such legislation to satisfy the requirements of the public health should provide that no preservative whatever the use of which is not sanctioned by the Local Government Board or the Board of Agriculture should be used for milk; that the proportion of such preservative should not exceed a certain maximum amount to be fixed officially; that the nature of the milk should be declared by the vendor, and that it should be sold only as 'preserved milk.' And, finally, the penalties for infringement of the law should be sufficiently heavy to render the sale of 'preserved milk' as fresh milk unprofitable.

With regard to other articles of food special cases must be dealt with on their own merits, but I do not think that there is any other article of food in which the use of a preservative is so important as it is in the case of milk. It is, for instance, difficult to find any good reason for the presence of salicylic acid or other special preservative in such articles of food as jam, cheese, and pickles, whilst the use of certain preservatives as substitutes for alcohol is a matter of fraud pure and simple. So also the use of a tasteless preservative in butter cannot be regarded as other than fraudulent unless the fact is declared; by using such a preservative the vendor is enabled to sell as fresh butter what under former conditions would have been sold at a lower price as salt butter. The use of boric acid, again, for salting bacon and ham may or may not cause injury to the consumer, but in any case the latter should have the opportunity of exercising his own judgment on the matter as to whether he will eat that class of preserved food. And, in short, it appears to me

that if the regulations suggested above for milk were applied to all other articles of food of a perishable nature the requirements of the public health would be safe-guarded as far as possible, and at the same time the legitimate use of preservatives would not be interfered with." (London *Lancet*, Vol. II for 1899, pages 1427 and 1577).

In an article on "The Use and Abuse of Preservatives", Dr. Samuel Rideal of Victoria-street, London, S. W., England, comes to the following conclusion:

"I am, therefore, inclined to agree with Mr. Foulerton that experiments on animals have, after all, but a very slight bearing upon the problem under investigation. As Dr. Liebreich points out, even regarding Dr. Annett's experiments in their most favourable light they by no means prove that boric acid and formaldehyde are poisonous for young children, even in quantities largely in excess of those which would be possible in a milk diet when the preservatives were regulated in the way suggested." (London *Lancet*, Vol. I for 1900, p. 228).

A combination made up of Formaldehyde, Tri-Oxy-Methylene (Paraform) and Iodine has been recommended under the short name of "Igazol" in the treatment of pulmonary tuberculosis in its early stages. It is reported to be in the form of a readily volatile powder which is inhaled in the vapor form.

A report on an improved Formaldehyde generator which is being used by Dr. Alvah H. Doty, Health Officer of the Port of New York, is made by Mr. George L. Taylor, Civil Engineer in New York City. It is described in the *N. Y. Medical Journal* (Vol. LXX, p. 688), but no illustration accompanies the article.

Gallobromol (Di-Bromo-Gallic Acid) has been unheard of in the medical literature of the past year.

Glonoin (Nitroglycerin), although still largely used, apparently nothing new has developed with it, for no special mention has been made of it in the current medical literature of the past year.

Guaiacol—now generally understood as referring to the synthetic product obtained from Pyro-Catechin—has been much in use during the past year and many observers have recorded their results. Only a few of the prominent ones therefore can be alluded to here. Combinations with other agents have been quite numerous during the past year.

A combination of Guaiacol and iodoform with olive oil or steril-

ized vaselin has had some practical use in France in the treatment of pulmonary tuberculosis and tuberculous pleurisy. In the Polyclinique of Lille, France, they have made use of a Phosphate of Guaiacol with extract of gentian made up in the form of a pill, in the treatment of tuberculosis.

In an article by Dr. Willson O. Bridges of Omaha, Neb., on "The Specific Treatment of Croupous Pneumonia," he speaks of the probability in his experience of Guaiacol and creosote carbonate being about as near specifics in the treatment of pneumonia as it can be hoped to reach. He states that he cleared up his own mind pretty definitely during the past winter, when he had an opportunity to put this treatment into practice. He gives the details of some eight cases, some of which were exceedingly severe. (*Journ. Amer. Med. Assoc.*, Vol. XXXV, p. 74).

Dr. G. P. Stanley of Tamworth, New South Wales, gives the results of his trials from the external application of Guaiacol to reduce high temperatures. He claims that he obtains rapid reduction of temperature with little trouble in administering, and with neither local nor general ill-effects. The average amount used was five drops at each application which required no dressing or covering whatever. (*The Australasian Med. Gaz.*, Vol. XVIII, p. 522).

Dr. William Nuss of Cleveland, Ohio, reports his successful results in the use of this agent in the treatment of orchitis and epididymitis. He relates three cases. He applies a few drops of Guaiacol at intervals immediately over the swelling. In some cases only one application appears to be necessary but more obstinate cases, of course, require repeated application.

At the annual meeting of the Colorado State Medical Society at Denver in June last:

"Dr. Jesse Hawes discussed 'The Local Use of Guaiacol in the Treatment of Frequent and Painful Urination.' He said that this agent is applicable only in those cases in which the cause of the symptom is located in the extreme inner portion of the urethra. The diagnosis of deep urethritis having been made, guaiacol is applied through a speculum to the affected mucous membrane. It acts as an anesthetic and stimulant, and does not give rise to stranguery as does silver nitrate. The patient retains the urine for hours after the application." (*Journ. Amer. Med. Assoc.*, Vol. XXXV, p. 448).

A combination of Guaiacol with formaldehyde has been given the

contracted name of "Guaiacform", and has been made use of by some observers. Little of special value can be attributed to this combination as yet.

Guaiacetin (a carboxyl substitution product of Guaiacol) is reported by Dr. Wilhelm Meitner of Wostitz, Austria, as giving wonderfully successful results in his treatment of tuberculosis. He speaks of its advantages as being promptness in reducing the temperature, checking the night sweats and reducing the mucous secretions considerably. It also has rather a beneficial effect than otherwise on the digestion. (*Wien. klin. Rundschau*, Vol. XIV, p. 258).

Guaiasanol is one of the latest synthetic combinations prepared from Guaiacol, and is chemically Di-Ethyl-Glycocol-Guaiacol Hydrochloride. The particular advantage for it is that it offers a soluble form in which to give Guaiacol. Little definite information has been reported clinically as yet. Dr. Alfred Einhorn of Munich, Bavaria seems to be about the only prominent observer so far (*Muench. Med. Wochensch.*, Vol. XLVII, p. 10). The doses given vary from 3 to 12 grammes (46.3 to 185.2 grains) daily. It is reported to be non-poisonous.

Guaiaguin (Quinine Guaiacol-Bi-Sulphonate) has received practically no attention in the medical literature of the past year.

Hedonal is a new hypnotic recently brought forward. It is described chemically as being the Ester of Methyl-Propyl-Carbinol-Carbamic Acid. It appears in the form of colorless crystals with a somewhat disagreeable taste, and readily soluble in hot water. It is reported that it splits up in the system into carbonic dioxide, ammonia and urea, and acts as a diuretic (as a rule in animals, but not universally in human beings). It is claimed that after administering a dose of 2 grammes (30.9 grains) a prolonged sleep results in from twenty to thirty minutes and lasts about seven hours.

Dr. Arthur Schüller of Vienna, Austria, reports on it as being a new hypnotic of the urethane group. His cases amounted to 21 in number. He rather inclines to believe that its best effects are produced in mild cases of insomnia. It surely appears to be preferable to either chloral or paraldehyde. If alternated with trional he observed that it might be given for quite a prolonged period. (*Wien. klin. Wochensch.*, Vol. XIII, p. 526).

Drs. Paul Schuster and A. Eulenburg both of Berlin, Germany, report some 79 cases between them of insomnia with practically the

same successful results. They administered it in the form of the powdered crystals immediately applied to the tongue, using some aromatic elixir to wash it down and thus avoid the disagreeable taste (*Deut. Med. Wochensch.*, Vol. XXVI, Therap. Beilage, pages 19 and 20).

Drs. Nawratzki and Arndt, two German observers of "Dalldorf," rather consider this agent the ideal hypnotic, and being so readily soluble is well-adapted to hypodermic injections. They have used it in this way and find no ill-effects from such use. They have observed that it is a very marked diuretic and in some cases this action is so pronounced that it interrupts continued sleep. (*Therap. Monats.*, Vol. XIV, p. 372).

Heroin (claimed to be a Di-Acetic Ester of Morphine) has received considerable attention during the past year. The hydrochloride seems to be the preferable salt and it has been used largely in producing the narcotic, analgesic and sedative effects for which morphine has previously been relied upon. The combinations in which it appears for popular use are greatly on the increase which is surely to be deplored, on general principles. A few of the combinations which are recommended by advertising largely may be alluded to. A combination with bitter almond oil is used to form "cough drops". Some suitable excipient is used with it to form the so-called "cough pills." Simple syrup is used with it in order to offer a so-called "sedative syrup." Trional is combined with the alkaloid Heroin to produce a "sleeping powder." The alkaloid Heroin with alcohol and syrup of tolu is used for a "sleeping draught." The alkaloid, marshmallow powder and extract of rhubarb are used to form "Heroin pills for constipation," and others might be mentioned.

Dr. C. G. Santesson of Stockholm, Sweden, is carrying on "Some Experiments Concerning the Action of Heroin upon Respiration," showing that its action is depressing. (*Muench. Med. Wochensch.*, Vol. XLVI, pages 1375 and 1767).

Dr. Wilhelm Klink of Frankfort-on-Main, Germany, reports on the results of "Large Doses of Heroin Without Intoxication Signs." Two patients apparently took by mistake 50 milligrammes ($\frac{1}{4}$ of a grain) of this agent three times in one day without producing bad effects. Dr. Klink remarks however that it would not be wise to repeat such doses on other patients. (*Muench. Med. Wochensch.*, Vol. XLVI, p. 1376.)

Dr. Julius Pollak of Vienna, Austria, has written on Heroin Hydrochloride (*Wien. klin. Wochens.*, Vol. XIII, p. 61).

Dr. Henry D. Fulton of Pittsburg, Pa., reports his experience with this agent in affections of the respiratory organs after five years' observation, in which he states that it "promises to be a remedy of real value and, indeed, a very important addition to our therapeutical resources, even if further study and investigation do not widen its field of usefulness beyond the clinical results so far obtained." (*N. Y. Med. Journ.*, Vol. LXX, p. 960). Other observers report in a like strain.

Dr. Morris Manges of New York City whose report on the therapeutics of Heroin was alluded to here last year, now makes a second report in which he states:

"A sufficiently long period having elapsed since the introduction of heroine, the new substitution product for codeine, during which it has been used very extensively, we are now enabled to pass judgment upon its real value, and to definitely determine in what manner this drug has fulfilled the expectations raised in its behalf." (*N. Y. Med. Journ.*, Vol. LXXI, pages 51 and 79). This is a very complete report and brings the subject up to date.

Dr. W. Ross Thomson of New York City in commenting upon Dr. Manges' report in which he thoroughly agrees, thinks it worth while to cite two of his own cases in order to emphasize the fact more clearly that continued vomiting sometimes follows its use. (*N. Y. Med. Journ.*, Vol. LXXI, p. 171).

Dr. William J. Robinson of New York City also reports two cases of continued vomiting. He remarks in conclusion:

"I wish to make a suggestion: Heroine being a derivative of morphine, is it not just possible that the emesis in my cases and in the others reported was not due to the heroine *per se*, but to some chemical change which transformed the heroine (= diacetyl morphine) into apomorphine or a body similar to it? I have not had the time to investigate the subject, and the foregoing is simply an hypothesis. But the hypothesis seems to me quite plausible, and I believe that investigation along that line would not remain fruitless. I shall undertake the task at the first opportunity." (*N. Y. Med. Journ.*, Vol. LXXI, p. 206).

Dr. Manges replies in a short correspondence to Drs. Thomson and Robinson to show that he distinctly pointed out this peculiarity. (*N. Y. Med. Journ.*, Vol. LXXI, p. 278).

Dr. James R. L. Daly of Spuyten Duyvil, N. Y., in making a report on "A Clinical Study of Heroin", cites the clinical history of eight cases taken at random from a clinical field of over 100 cases of pulmonary tuberculosis in all stages of the disease, and claims that it will surely illustrate the efficacy of the drug, at least in hospital practice. (*Boston Med. and Surg. Journ.*, Vol. CXLII, p. 190).

Dr. Kurt Witthauer of Halle, Prussian Saxony, reports his experience with the Hydrochloride given in conjunction with cherry laurel water. He has obtained successful results in various forms of laryngitis, pleuritis, pneumonitis and in the dry forms of pulmonary tuberculosis. His most favorable results however were obtained in treating simple inflammation of the trachea. He advises beginning with doses of 2.5 milligrammes (about $\frac{1}{8}$ of a grain) and then increasing up to 5 milligrammes ($\frac{1}{4}$ of a grain)—given three times a day (*Die Heilkunde*, Vol. IV, p. 267).

Dr. F. C. Floeckinger of La Grange, Texas, has published some "Clinical Observations on Heroin and Heroin Hydrochloride as compared with Codeine and Morphine." His doses are apparently the same as Dr. Witthauer's. He has noticed no dangerous effects when the doses were confined within the limitations mentioned. (*New Orleans Med. and Surg. Journ.*, Vol. LII, p. 636).

Hetol (Sodium Cinnamate) is one of the newer agents recommended in the treatment of pulmonary tuberculosis. It was first introduced by Prof. Landerer of Stuttgart, Germany, and claimed by him as a specific.

Dr. C. A. Ewald of Berlin, Germany, has taken up the investigation of its use and reports his results in 25 cases of pulmonary tuberculosis, when given by intravenous injections. He admits that he selected his cases to meet the conditions in which Prof. Landerer stated the best results were to be expected, and undoubtedly some good resulted from its use for the patients usually gained in weight, but general hygienic treatment was found to be equally important as in the use of most other remedies for this affection. Unsatisfactory results were noted whenever general hygienic treatment was omitted. His results however were not as satisfactory as Prof. Landerer reported, for he calculated that only 8 per cent. of his cases could be called successes with this treatment. It is however urged that as this form of treatment is quite harmless, further investigations be taken up. (*Berliner klin. Wochensch.*, Vol. XXXVII, p. 449).

Hiccough. Dr. J. Noir, a French practitioner reports his experience in carrying out the observations of Prof. Lépine of Lyons on the effect of traction on the tongue upon the apparently dead body, in relation to its effect on hiccough. Prof. Laborde first suggested this line of treatment and Dr. Noir has now tried it with success. He reports first on a case of a 6½ year old extremely nervous girl who had spasms of violent hiccoughing lasting for as much as six hours. She became so much exhausted that her parents had given her up for dead. Traction on the tongue however for a minute and a half immediately stopped the spasm and it did not recur. Another case reported is that of a tuberculous and cachetic patient affected with diabetes who had been troubled for several days with severe spasms of hiccoughing. Every form of medicinal treatment was tried without avail. Traction on his tongue was continued for about two minutes with like favorable results, however the spasms recurred after several days. The patient then practiced traction on himself with equal success. It is to be hoped that other observers will make a trial of this treatment and report their results. (*Progrès Médical*, Vol. XXIX, p. 5).

Holocaine, the new local synthetic substitute for cocaine, is still largely used with great advantage and with some of the objectionable features of cocaine eliminated. The general practitioner uses it with some satisfaction and finds that it acts quicker, is less painful and does not dilate the pupil. Cases of foreign bodies in the eye are now immediately relieved by the general practitioner with great facility.

Hydrogen Dioxide, particularly in the form of its solution, has now a very large field of usefulness. Its value can hardly be overestimated. French observers are speaking very emphatically of its use as a disinfectant. It is being used in France in the form of a 10 per cent. solution for uterine injections, for infiltrations of urine with consecutive gangrene, in suppurating appendicitis and in perirectal abscesses. In affections of the upper air passages, it is injected into the trachea. No irritation is noticed when thus injected, and whereas it is acknowledged that it is not a specific in pulmonary affections, it actually does increase the appetite, make the respiration easier and improve the general health.

At the Ninth Annual Meeting of the New York State Association of Railway Surgeons held at the Academy of Medicine, New York City, on November 16th, 1899, several observers called atten-

tion to the fact that this agent was at times harmful, and it may be well for those who care to follow up this subject to refer to the remarks made at that meeting. (*Med. News*, Vol. LXXV, p. 771).

Dr. L. Duncan Bulkley of New York City in writing "On Some of the Uses of Peroxide of Hydrogen in Dermatology" speaks of the advantage of this agent in *hirsuties*, which he believes has not been heretofore mentioned, in that it certainly retards the growth of hair. He remarks as follows:

"This I have noticed in a number of instances for the past two or three years, much to the delight of several patients. This result is slow, but with a faithful continuance of the remedy the fine growth of hairs certainly diminishes; some of the stronger ones seem to grow and they can be removed by electrolysis.

In applying the peroxid to such cases it is often well to begin by diluting it one-half with water, and increasing the strength gradually, for when a strong specimen is applied to the healthy skin it will sometimes cause a desquamation, which is unpleasant." (*Journ. Amer. Med. Assoc.*, Vol. XXXIII, p. 1598).

Dr. C. H. Browning of Oberlin, Ohio, writes to the Editor of the *Journal of the American Medical Association* (Vol. XXXIV, p. 59) as follows:

"In connection with Dr. Bulkley's paper, in the JOURNAL of Dec. 23, 1899, I want to give voice to a use for hydrogen dioxid that has been too little known. The idea was original with Dr. Geo. W. Crile, of Cleveland, Ohio, and I am only giving his suggestion and my own experience with it.

Gunpowder burns are very troublesome things, and the ordinary treatment has usually failed to prevent the black stain remaining permanently. Dr. Crile's suggestion is to apply peroxid on the first or second day after the burn, and see that it gets thoroughly into the center of each pigment spot. The application is practically painless, and the consequent bubbling removes the inorganic remains of the powder. I have found it necessary to prick each point thoroughly open, and have used the solution of U. S. P. strength with perfect results, absolutely no pigment remaining."

Dr. H. E. Kendall of Sydney, Nova Scotia, writes to the Editor of the *Medical Record* (Vol. 57, p. 928) as follows:

"I have not seen anywhere peroxide of hydrogen spoken of as a local anæsthetic, and as it has proved very satisfactory in my hands I venture to mention it in your paper. Injected under the epider-

mis it produces immediate and complete anæsthesia of the whole skin. I have used it for over a year, in opening abscesses, cutting off redundant tissue in in-growing toe-nails, opening the pleural cavity, and in one case the abdominal cavity. I do not think any absorption takes place, as the intercellular inflation from the gas generated seems to produce such pressure that the skin cuts like frozen tissue."

Dr. von Bruns of Tübingen, Germany, in recommending this agent in the treatment of infected wounds believes that it acts partly chemically and partly physically. The oxygen evolved in its decomposition when applied to the tissues produces the noticeable foamy condition which acts beneficially in loosening up the necrotic matter. He makes use of a 1 per cent. solution either in the form of irrigations or moist dressings. (*Berliner klin. Wochensch.*, Vol. XXXVII, p. 405).

It may be of service to some to repeat here the now well-recognized fact that a small amount of solution of Hydrogen Dioxide poured over the closely adhering dressing of a wound, will not only relieve the pain incident to removing the dressing, but will alleviate any irritation which might be set up.

Good results are again reported from the use of the vapor of Hydrogen Dioxide in the treatment of pertussis. Dr. Baroux of Armentières, France, now reports on 13 cases with excellent results. He uses a strength of 12 volumes, and pours 80 grammes (about 3 ounces) on a clean, white linen cloth one meter (about 3 feet) square which he suspends from a cord stretched across the middle of the small room in which the patient is lying. He replenishes this solution every four hours. He recommends the use of two such rooms to obtain the best results, one to be occupied in the day time and the other at night. Internally he prescribes the following mixture:

Tincture of Drosera.....	2.0	grammes	(30.9	grains)
“ “ Belladonna..	3.0	“	(46.3	“)
“ “ Aconite.....	4.0	“	(61.7	“)

He claims that any case of pertussis irrespective of the stage in which it is first seen, is successfully treated in eight days by this method. (*Gaz. des Hôpitaux*, Vol. 73, p. 347).

Dr. Stout of Philadelphia, Pa., recommends the use of equal parts of alcohol and Hydrogen Dioxide solution to wash out the ear after

the removal of an excess of wax. (*Phila. Med. Journ.*, Vol. 5. p. 1090).

Oxydol is the coined name given to a solution of Hydrogen Dioxide as made by an English firm, which according to their claim is more permanent than any other now offered. Of course no allusion is made to the mode of preparation or whether any extraneous substance is added to promote its keeping qualities.

Ichthalbin (Ichthyol-Albumen), the substitute for Ichthyol, continues to be recommended by some observers.

Dr. Samuel Wolfe of the Samaritan Hospital, Philadelphia, Pa., has written on its use as proving its full value "as a local measure in erysipelas, eczema, pruritis, urticaria, lupus and other affections where there are skin lesions; also in gouty and rheumatic joints, in enlarged glands, and in local disturbances where swelling, hyperemia or inflammations are present." (*Merck's Archives*, Vol. II, p. 9).

Dr. Otto Binder practicing in Suczawa, Austria, has made use of this agent in several hundred cases under various conditions, and makes a general report on its broad field of usefulness. (*Wien. Med. Wochensch.*, Vol. L, p. 1082).

Dr. Rolly of Heidelberg, Germany, reports his clinical observations on the use of this agent in catarrhal affections of the alimentary tract, especially in children where it can be given in place of calomel and thus avoid the usual purgation (*Muench. Med. Wochensch.*, Vol. XLVII, pages 460 and 576).

Ichthyol (Ammonium Ichthyol-Sulphonate) continues prominent in the medical literature of the past year. It would be quite out of place to enumerate here each individual mention of this article for the past year, and therefore an attempt will be made to only speak of some prominent and possibly typical instances of its very varied uses.

Dr. B. F. Travis of Chattanooga, Tenn., recommends it in the treatment of corneal ulcers without regard to their cause. After some little experience with a number of cases he has adopted a 30 per cent. solution diluted with glycerin and distilled water as the most useful one, but for use at home by the patient he recommends a weaker solution. To counteract the momentary pain which is apt to occur, he advises the previous use of a 1 per cent. solution of holocaine. (*The Med. Herald*, Vol. XVIII, p. 515).

The report of a series of 250 cases of erysipelas has recently been

published as having been successfully treated exclusively with Ichthyol. The ages varied from six months to eighty-seven years. An ointment was used of vaselin and Ichthyol, varying in strength from 13 to 30 per cent. (*Med. Press and Circ.*, Vol. LXVIII, p. 480).

Dr. M. Eberson of Tarnów, Austrian Galicia, relates five clinical cases of trachoma in which this agent produced satisfactory results. He claims that it completely relieves the annoying symptoms and produces little pain and no cicatrices. No infection seems to follow after its use. (*Therap. Monats.*, Vol. XIV, p. 313).

Dr. A. Seibert of New York City reports on fifty-six cases of scarlet fever treated with inunctions of Ichthyol made with 5 to 10 per cent. Ichthyol in lanolin. He began collecting his cases in 1894. (*Jahrb. für Kinderheilk. und Phys. Erzieh.*, Vol. 51. p. 308).

Prof. Talamon, an Italian observer, recommends the following local application in the treatment of psoriasis:

Salicylic Acid.	3 grammes (	46.3 grains)
Ichthyol.	10 "	(154.3 ")
Pyrogallic Acid.	6 "	(92.6 ")
Lanolin or Vaseline....	100 "	(about 3½ ounces)

(*Riforma Medica*, Vol. IV, p. 707).

Dr. H. Beaman Douglass of New York City in writing on the topic of "Atrophic Rhinitis" recommends this agent as giving the greatest relief when used locally. (*Post-Graduate*, Vol. XV, p. 768).

Dr. Gustav Woyer of Vienna, Austria, has made quite an extensive use of this agent in his gynecological practice. The greatest service has been obtained in using the Ichthyol-Glycerin tampon, producing prompt anodyne effects. (*Wien. Medizin. Presse*, Vol. XL, p. 1946).

Dr. Richter of Glatz, Prussia, reports the successful use of this agent in the case of a girl of nineteen suffering from tuberculosis of the urinary tract. (*Deut. Med.-Zeitung*, Vol. XXI, p. 254).

Dr. G. Edlefsen of Hamburg, Germany, reports good results from the use of this agent in chronic rheumatism. He made use of a preparation which is offered under the name of "Ichthyolvasogen." He publishes his results in a paper on the use of this new preparation in joint affections. (*Therap. Monats.*, Vol. XIV, p. 19).

A combination of Ichthyol and formaldehyde, sold under the name of "Ichthoform," has been studied experimentally by Professors S. Rabow and B. Galli-Valerio of Lausanne, Switzerland, with such favorable results that they would recommend it as a substitute for iodoform externally and internally in the way of an intestinal antiseptic. (*Therap. Monats.*, Vol. XIV, p. 202).

Dr. Aufrecht of Berlin, Germany, also reports favorably on this compound (*Therap. Monats.*, Vol. XIII, p. 692). He also describes another combination—silver and Ichthyol-Sulphonic Acid—to which has been given the name of "Ichthargan." It takes the form of a brown amorphous powder without odor and readily soluble in water, glycerin and diluted alcohol. It contains 30 per cent. of silver. Its marked antiseptic and bactericidal properties were demonstrated largely by experiments upon mice. He experimented on himself as well.

Iodalbacid is one of the newer albuminous combinations containing 10 per cent. of iodine combined with albumin. It is manufactured and offered for sale by an enterprising house in Frankfurt-on-the-Main (Germany) as being a much more stable compound of iodine than the usual iodides. It therefore appears to act with less rapidity but more continuously, and without producing iodism. It appears as a yellow powder with a very slight odor and taste, and is sparingly soluble in water. Dr. Arthur Briess of Vienna, Austria, has experimented with it in 25 cases of syphilis in Prof. Neumann's Clinic in Vienna. The dose varies from 2 to 5 grammes (30.9 to 77.2 grains). In cases of recent syphilis it appeared to fail in some instances, and other agents had to be prescribed. In the larger number of cases however it acted well and comparatively rapidly. The treatment was kept up at times for several months and Dr. Briess reports that most of those cases which recovered suffered from late relapses. (*Wien. Med. Wochens.*, Vol. L, p. 699).

Iodine is undoubtedly too well known to call for much comment here. However it will be of interest to some to learn that Dr. Charles A. Elsberg of New York City recommends a new solution of Iodine for local application. His attention being called to the repeated comment during the past few years on the abuse of the Tincture of Iodine, he felt called upon to emphasize its true value. He writes as follows:

"Although I have applied the iodine-solution over large areas of skin, in many cases, I have never seen a case of iodine-poisoning

from its use. Only in one case did I succeed in obtaining a well-marked iodine reaction from the urine.

In conclusion, although the local use of iodine in the above-mentioned conditions is well-known, it has seemed to me that the very good results I have obtained would justify this renewed recommendation of the agent. After a careful observation of a considerable number of cases, it has seemed to me that with this 20% solution of iodine distinct therapeutic results can be obtained, which cannot be obtained with the much weaker official tincture of iodine which is generally recommended and used." (*Phila. Med. Journ.*, Vol. 4, p. 882).

Iodipin—the combination of iodine with the fatty acids in oil of sesame—is still being experimented with.

Dr. Viktor Klingmüller of Breslau, Prussia, has written an article "On Iodipin." His experience with it in subcutaneous injections included 100 cases. He concludes that it is of much value in that it is very easy to administer and its effects are pretty certain, energetic and lasting. (*Deut. Med. Wochens.*, Vol. XXVI, p. 423).

Dr. Kindler of Moabit (near Berlin), Germany, has not only used this agent subcutaneously but in the form of an oil-pack. In subcutaneous use the spot where the injection is to be made is first anesthetized with ethyl chloride spray. The amount injected was usually 10 grammes (154.3 grains) each day, but a break was made in the regularity of the injections after each tenth one. No abscesses had been recorded. He used the oil-pack in several cases of gonorrheal articular rheumatism, but obtained no more satisfactory results than when simple warm oil was used as an application. The internal administration of this agent had to be given up on account of the objectionable oily taste being too prominent when used for any length of time. In eight cases of asthma good results followed and iodism was not noted, which is the claimed advantage over the potassium iodide treatment. Varied results followed its use in different forms of syphilis. (*Fortschritte der Medicin*, Vol. XVII, p. 1001).

Dr. J. W. Frieser of Vienna, Austria, also reports his experience with this agent. He would class it as superior to all other iodine preparations, particularly for the reason that it does not produce iodism. Under his observation it is rapidly and completely absorbed in the intestines and acts particularly well in the tertiary stage of syphilis. (*Wien. klin. Rundschau*, Vol. XIV, p. 315).

Dr. A. Sternberg of Wurtemberg, Germany, states that he believes the usually recognized splashing in the stomach is not a sufficiently diagnostic sign of dilatation. This agent gives a reaction for iodine in the saliva in about sixty-five minutes when the stomach is normal. If the reaction is delayed longer than this time, he assumes that the motility of the stomach is impaired. A differential diagnosis between organic gastric trouble and functional disturbances may thus be made. (*Deut. Medizin.-Zeitung*, Vol. XXI, p. 421).

Iodoform can surely not yet be spared, notwithstanding the numerous substitutes offered.

Dr. Edmund C. Brush of Zanesville, Ohio, read a paper before the Fifteenth Annual Meeting of the American Medical Association held in Columbus, Ohio, in June, 1899, on the topic "Would Surgery Suffer if Iodoform Was Abolished?" In preparing his paper he attempted to reach some decision either for or against it, by writing to 100 representative surgeons, asking them to answer the following questions:

"What germicidal powder do you prefer?"

The second question was to mention a second choice of powders.

"Have you seen any bad effects from using iodoform?"

"Would, in your opinion, surgery suffer if iodoform was abolished?"

.....

"A careful summing up of the answers given to the inquiries makes a strong case against the use of the drug excepting to a limited extent and in a limited number of cases. Many surgeons think that surgery would not suffer if there was no such thing as iodoform. There is no doubt that the indiscriminate use of iodoform has done untold injury. If those who use it in local tuberculosis and in specific cases had something else just as good, iodoform would really lose its chief supporters.

So the answer to the title of this paper, 'Would surgery suffer if iodoform was abolished?' can be written, 'Yes, to a very limited extent!'

Let me predict that in five years, by reason of the discovery of better things, the answer can be written, 'No, not in the least!'" (*Journ. Amer. Med. Assoc.*, Vol. XXXIII, p. 1526).

Drs. V. Cornil and Coudray of Paris, France, have carried on a series of observations to determine the action of Iodoform on the

normal tissues. Their experiments consisted in injecting one part of Iodoform thoroughly emulsified in eleven parts of oil into such animals as dogs, guinea-pigs and rabbits. Their results will be interesting reading to those who desire to follow up this study. (*Sem. Méd.*, Vol. 20, p. 159).

Dr. Zera J. Lusk of Warsaw, N. Y., reported at the Annual Meeting of the N. Y. State Medical Association on October 24th, 1899, the cure of three cases of tuberculous peritonitis due to the application of an extensive Iodoform poultice extending from the ensiform cartilage to the pubes on either side of the spinal column. He used the proportion of one part of Iodoform to six of vaselin. He has made successful use of a similar poultice to the chest, in a case of pulmonary tuberculosis, and again when applied to the knee in tuberculous synovitis. (*Transactions N. Y. State Med. Assoc.*, Vol. 16, p. 481).

Cases of poisoning are still too frequent. Only two of the prominent instances will be mentioned here.

Dr. Burr B. Mosher of Brooklyn, N. Y., reported, at a meeting of The Kings County Medical Association, a case of acute Iodoform poisoning in a boy 6 years old where an Iodoform gauze wick had been placed in the excised portion of the eighth rib for the purpose of draining an empyema. (*Archives of Pediatrics*, Vol. XVI, p. 873).

Another case was an infant two weeks old, and reported by Dr. J. C. Josephson of Baltimore, Md. As some of the symptoms resembled opium poisoning, tincture of belladonna was prescribed which lends interest to this particular case. (*N. Y. Med. Record*, Vol. 57, p. 638).

Iodoformogen (10 per cent. Iodoform)—the combination of iodoform with albumen, offered as a substitute for iodoform—has not been alluded to in an original way during the past year.

Iodol (Tetra-Iodo-Pyrrol)—the Iodoform substitute—is still in use in some quarters, but little appears in the medical literature directly concerning it.

Iodonaftan is another new combination of iodine. It proves to contain 3 per cent. of iodine combined with a naphtha product. No clinical reports have yet been made, but it is recommended to dispense it in the form of an ointment. The claims made for it are that it has a rather agreeable odor, is permanent in the air and possesses anodyne properties.

Iodopyrin is a combination of 60 per cent. antipyrin and 40 per cent. iodine which has been offered before, but sufficient experience had not been obtained to recommend it very enthusiastically until Dr. Junkers of Erfurt, Prussian Saxony, had reported his practical experience which has now extended over eight years and in a great variety of affections. The hydrochloride is the salt generally used and is of a yellow color. The dose he employed was 1 gramme (15.4 grains) for adults every three or four hours. For children from 1 to 10 years old he gave 100 to 500 milligrammes (from 1.5 to 7.7 grains). To those over 10 years he gave 500 to 750 milligrammes (7.7 to 11.6 grains). He found it particularly useful in muscular rheumatism. In the acute articular form it gave better results than the salicylates, by not producing the unpleasant after-effects. In some cases of chronic rheumatism he found the usual phenomena of iodism present. (*Therap. Monats.*, Vol. XIII, p. 604).

Iodothymoform—the new disinfectant combination of last year, prepared by the action of thymol upon formaldehyde under certain conditions—has not been heard of during the past year.

Itrol (Silver Citrate) has received no more attention during the past year than in previous years. Only one observer praises it very enthusiastically in skin affections.

Dr. Oskar Werler of Berlin, Germany, reports that in all cases where an antiseptic and disinfectant was needed it responded favorably. It produced no irritation of the skin but acted in a mild and harmless manner. He recommends beginning with small doses and gradually increasing them in order to produce complete freedom from pain and local irritation. (*Wien. klin. Rundschau*, Vol. XIV, p. 258).

Kryofin—the antipyretic closely allied to phenacetin—has received attention from only one prominent observer—Dr. Albert Breitenstein of Basel, Switzerland. He wrote an article "On Kryofin" and states that he made use of it particularly as an analgesic in the treatment of headaches. He reports an aggravating case of migraine of long continuance being relieved by only two doses of 450 milligrammes (7 grains) each. Headaches attributed to acute alcoholism were promptly relieved. He believes that it is a safe and certain agent and that it gives rise to no unpleasant after-effects. (*Therap. Monats.*, Vol. XIV, p. 137).

Lactophenin (π -Lactyl-Phenetidin), also closely allied to

phenacetin, has received considerable attention through advertising mediums, but little direct reporting of clinical experience has appeared.

Lanoform is the name given to a mixture of lanolin with 1 per cent. of formaldehyde, and probably has some use as an antiseptic, but little or no comment has been made upon it during the past year.

Largin, the new silver compound with albumin, containing 11.2 per cent. of silver and closely allied to protargol, has received somewhat more attention during the past year than in the year previous.

The ophthalmologists have given it increased attention.

Dr. Marczel Falta places it far above protargol in its germicidal properties. The tissues appear to take up this agent very rapidly, particularly in cases of conjunctivitis and affections of the lachrymal ducts. Dr. Falta finds that patients will bear as strong a solution as 10 per cent. even when slight pain and reddening is produced. It has a marked checking effect on the copious secretion in conjunctival affections. (*Wien. klin. Rundschau*, Vol. XIV, p. 57).

Mr. Sydney Stephenson of Hanwell, London, W., England, has contributed an article on "The Practical Applications of Largin in Diseases of the Eye." After giving a detailed account of eight cases he draws the following conclusions:

"The application of largin, even in concentrated form, is painless, but, when prolonged beyond a few weeks, may stain the conjunctiva. It acts well in blepharo-conjunctivitis, and in some cases of dacryocystitis. It is an efficient substitute for silver nitrate in any of the conjunctival inflammations associated with the Koch-Weeks bacillus, such as acute infectious ophthalmia and acute or subacute trachoma. It acts admirably as a temporary remedy after any of the operations commonly practised for the relief of chronic trachoma. In gonorrheal ophthalmia, on the contrary, it is, in my experience, distinctly inferior both to protargol and to silver nitrate. In diplobacillary conjunctivitis, too, it does not succeed so well as zinc sulphate. In short, largin seems likely to gain a permanent place among the somewhat restricted number of remedies employed in everyday eye work." (*Brit. Med. Journ.*, Vol. I for 1900, p. 622).

Prof. Ernest Finger of Vienna, Austria, advises the treatment of gonorrhea by this agent. He has obtained the best results by beginning with the use of protargol, continuing for three or four days

and then substituting Largin. He makes use of solutions varying in strength from one-quarter to one per cent. (*Wien. Klinik*, Vol. XXVI, p. 1).

Liquid Air has received little attention in the medical world during the past year, although it is a well-known fact that it is being tried for a great variety of purposes.

Lycetol (Di-Methyl-Piperazin Tartrate)—the uric acid solvent—has been kept prominently before the profession by considerable advertising, but little can be found in the medical literature of any clinical reports in relation to its use.

Lysol (the saponified product of coal-tar, chiefly composed of cresols)—the substitute offered for Carbolic Acid—has apparently become well-established as an agent in the hands of the surgeon, and the comments which appear usually take the form of mentioning its use as quite a routine practice.

Malarin, the new antipyretic alluded to here last year, has received practically no attention during the past year.

Mallein, the so-called "animal antitoxin", continues to be confined to diagnostic purposes in determining the presence of glanders in the horse.

"A recent report issued by the Tramway Department of the Glasgow (Scotland) Corporation has attracted considerable attention, and is very important as demonstrating the value of mallein as a diagnostic and, it may be, also as a curative in glanders. The tramway stud of horses is a large one—at present 4,439—and therefore the experience of the manager and of the veterinary surgeon in this matter is very important. During the last few years up till July, 1899, the stud enjoyed almost complete immunity from glanders, but at that date two animals destroyed after severe street accidents were found to be affected with the disease, although they had shown no clinical symptoms. All the horses from the same depot as these two were thereupon submitted to the mallein test, and of over 700 about 10 per cent. reacted and were destroyed, although apparently in good health. In the majority of these animals the disease was found in its very early stages. The test was then applied to the animals in several of the other depots and revealed the unexpected fact that a large proportion of the horses reacted, although to all appearance in splendid condition. This led the authorities to adopt isolation of reacting animals instead of their destruction, and the repeated application of the mallein test

on these isolated animals showed the interesting fact that they gradually ceased to react. Indeed, of 278 animals that reacted on the first test with mallein not one reacted on the seventh test, and these animals were all drafted back to work. The report affords one more proof that glanders may be rapidly and widely disseminated even through well-managed studs and stables without any clinical evidence of its presence. It may perhaps be taken to indicate that mallein is not only a valuable diagnostic, but also has some controlling power over, if not curative action upon, the disease. The Tramway Department now test all horses as soon as possible after purchase, and thereafter every three months. Any animals that react are at once isolated, then tested monthly, and only returned to work when the last two injections of mallein have failed to produce a reaction. The experience of Glasgow in this matter should be important in all centres where there are large studs of horses, and where glanders is always looked upon with dread." (*Brit. Med. Journ.*, Vol. I for 1900, p. 594).

Mercuriol is the name given to a new compound consisting of yeast nuclein and metallic mercury. It appears in the form of a fine colorless powder containing about ten per cent. of mercury and is recommended to be used where solutions of corrosive sublimate are applicable. The coagulation of albumen does not take place with Mercuriol and therefore this is its chief advantage.

Dr. Frederick Fraley, Jr., of Philadelphia, Pa., reports "Some Clinical Experiments with Mercuriol in Cases of Acute Gonorrhea." He concludes as follows:

"The best results were in the cases with simple anterior urethritis, and in the cases either of short duration (two to four days) or of comparatively long duration (ten days to two weeks), the explanation of the latter being that the disease had already exhausted some of its virulence.

In those cases which involved the posterior urethra the results were not so good, but this may be due to having used the remedy in too weak solution. Judging, however, from the rapid improvement of these cases under the use of potassium permanganate we may fairly say that the latter is the better agent for irrigations, while mercuriol is superior for injections. It would seem, however, that an unirritating remedy which has cured patients of gonorrhea in a period averaging less than four weeks is one that is not to be despised, remembering that the length of treatment in the hands of

good physicians averages six weeks before a complete cure is effected." (*Ther. Gaz.*, Vol. XXIII, p. 732).

Dr. Ferd. C. Valentine of New York City reports "A Case of Acute Gonorrhea Treated by Mercuriol Irrigations." After enumerating a number of cases he concludes:

"In all these cases the discharges have been examined from time to time for the gonococcus, and it was surprising in how short a time they were found to disappear. The treatment has been attended by very few complications. It might be wise to warn our professional brethren against the substitution of bichlorid of mercury for mercuriol, as I have been led to believe, from the pain following the ingestion from prescriptions put up by outside pharmacists, that this mistake has been occasionally made." (*Phila. Med. Journ.*, Vol. 5, p. 1147).

Methyl Salicylate (Synthetical Oil of Wintergreen) is still a favorite agent with many observers. Its successful results in rheumatic affections still continue to be reported, and yet again disappointment is not lacking from other quarters. Its most satisfactory field of usefulness appears to be that of an alternate with other well-known remedies applicable to this affection.

Dr. Edmund Rottenbiller of Trencsén, Austria-Hungary, reports on the use of this agent in 122 cases of acute rheumatism. He made use of the natural oil of wintergreen, but takes pains to state that he is not prejudiced at all against the synthetic product. He found no difficulty in getting all the patients to take this agent, and none of the disagreeable symptoms which usually follow the administration of the salicylates were noted. (*Klin.-Therap. Wochensch.*, Vol. VII, p. 582).

Reports continue to be made of the successful use of this agent in the treatment of orchitis.

The late Dr. B. Pillsbury of Middletown, N. Y., reported the following case of poisoning by this agent:

"I report this case since I find, among such records as I have examined, but one case of poisoning by oil of wintergreen, that one ending in recovery. Gilbert G——, a middle-aged farmer, took by mistake for whiskey two ounces of oil of wintergreen at 4 P. M. He went about his work, but in two hours began to have a copious diarrhoea, which continued constantly until his death. His daughter, with rare good judgment, gave him mustard as an emetic, the whites of a dozen raw eggs, milk, and very little water. It was not until

near 9 P. M. that a doctor arrived. He found the patient sweating prodigiously, feeling as if on fire inside; pulse 100, not intermittent; the skin was aflame. On the following day the skin was still intensely red, and the victim was harassed by a terrific itching. In the afternoon the pulse was still non-intermittent, but running as fast as possible. The odor of oil of wintergreen was perceptible in the fecal evacuations. Death occurred from exhaustion forty-one hours after the wintergreen was taken. (*N. Y. Med. Record*, Vol. 58, p. 150).

Methylene Blue (Tetra-Methyl-Thionine Chloride)—the anilin derivative—still continues to be confused with Methyl Blue, due many times to thoughtlessness. A case in point is that of Dr. Willy Meyer of New York City who states in an article published by him (*N. Y. Medical Record*, Vol. 57, p. 705) that he made use of Methyl Blue in the preparation of the patient before Bottini's operation for the cure of prostatic hypertrophy, when he must have intended to refer to Methylene Blue. Attention is called to this matter by Dr. Charles Teubner of San Francisco, Cal., in the following note:

"Sir: In the *MEDICAL RECORD* for April 28, 1900, in Dr. Willy Meyer's article on "Bottini's Operation for the Cure of Prostatic Hypertrophy," he mentions his use of methyl blue in two- to three-grain doses three times daily, combined with quinine in eight-grain doses. He must mean methylene blue, which is used in cystitis, pyelitis, malaria, rheumatism, and carcinoma. Methyl blue, on the contrary, is never used internally, but is dusted on the throat in diphtheria in a two-per-cent. mixture with sugar powder.

Methylene blue with sodium hydrate is changed to a violet color; methyl blue with sodium hydrate (NaOH) is changed to a reddish-brown." (*N. Y. Med. Record*, Vol. 57, page 927).

It would be quite out of the question to mention here all the references made concerning the use of Methylene Blue throughout the past year, therefore only a few of the prominent ones of special interest at this time will be enumerated.

Dr. Charles Moir of Louisville, Ky., reports on "Methylene Blue as a Local Application in Diseases of the Mucous Membrane: with Report of Three Cases." These cases were purulent affections of the tonsils and nasal passage. (*Amer. Pract. and News*, Vol. XXVIII, p. 406).

Dr. Charles H. Lewis of the Columbus Hospital in New York

reports on the successful use of intrapleural injections of this agent for pleuritic effusion. He draws out 100 Cc. (about $3\frac{1}{2}$ fluidounces) of the effusion and dissolves 1 gramme (15.4 grains) of Methylene Blue in it. This solution is then injected and proves to give far less pain than would be produced by an aqueous solution. (*La Sem. Médicale*, Vol. 20, p. 26).

Dr. Joseph Alan O'Neill of New York City has contributed an article on "The Prophylaxis and Treatment of Gonorrhea by Methylene Blue." His warning may be of service to some observers:

"I have seen troublesome gastric symptoms follow the administration of the methylene blue of the shops, but with the following formula put up for me in elastic capsules I have had uniformly satisfactory results: \mathcal{R} Methylene blue, gr. i.; oil of nutmeg, gtt. i.; oil of sandalwood, gtt. ii. I never continue the use of the above formula for more than ten days without intermission, and while giving it I instruct the patient to drink freely of water." (*N. Y. Med. Record*, Vol. 57, p. 498).

Dr. Ch. Vallon and Wahl of Villejuif, France, have contributed an article on "Methylene Blue as a Hypnotic" (*Le Progrès Méd.*, Vol. X, third series, p. 257).

Dr. Bodoin has made successful use of this agent as a sedative in those forms of insanity which are associated with considerable mental excitement. His favorable experience was noted in 14 cases of quite a variety of forms of cerebral excitement. He injected from 65 to 97 milligrammes (1 to $1\frac{1}{2}$ grains) into the gluteal muscles in each case which resulted in producing relief in a few hours, and lasted from one to four days.

Dr. H. R. Coston of Fayetteville, Tenn., reports "A Case of Inoperable Cancer of the Vagina Treated with Local Applications of Methyl Blue" (?) (*Ther. Gaz.*, Vol. XXIV, p. 232).

Some interesting experiments have been continued on the duration and rate of elimination of Methylene Blue, and at a meeting of the Société Médicale des Hôpitaux, Drs. Achard and Clerc reported their observations. (*La Presse Médicale*, Vol. 8, p. 53).

Dr. Heinrich Rosin of Berlin, Germany, in reporting on "A Method of Determining the Reducing Power of Urine, Blood and Other Fluids of the Body", recommends Methylene Blue as the indicator. (*Muench. Med. Wochensch.*, Vol. XLVI, p. 1456).

Dr. Charles E. Simon of Baltimore, Md., makes use of an "Eosinate of Methylene-Blue as a Blood-Stain", using it almost exclusively

in his laboratory work. He also finds it a convenient agent in the study of the various exudates, such as gonorrhea discharges and the like. (*Maryland Med. Journ.*, Vol. XLIII, p. 197).

Naphthalan (Naftalan)—the proprietary article made by dissolving 2.5 to 4 per cent. of anhydrous soap in purified petroleum naphtha—continues to be quite largely used by the dermatologists. A formula has been recommended of equal parts of Naphthalan, Lanolin, Zinc Oxide and Boric Acid. Dr. F. Gernsheim of Vienna, Austria, reports that its successful use is by no means universal but that the best results may be expected in the treatment of bedsores and acute exanthemata. (*Therap. Monats.*, Vol. XIV, p. 277).

Dr. P. G. Unna of Hamburg, Germany, has gone over with some care the field of usefulness of this agent in skin affections, and reports that in his opinion all deep-seated chronic lesions are not benefited, but that whenever an excessive irritation calls for a sedative it is of some use. (*Monats. für Prak. Dermatol.*, Vol. XXX, p. 321).

Dr. Josef Grünfeld of Vienna, Austria, reports very favorably on the use of this agent in the various forms and stages of eczema, in an article he published on "The Therapeutic Uses of Naftalan." His success was equally good in four cases of herpes zoster and in three cases of hyperidrosis of the feet with fissures. (*The Therapist*, Vol. X, p. 44).

Naphtalin (Naphthalene)—one of the hydrocarbons obtained from coal-tar—has received somewhat less attention in the current medical literature during the past year.

Apparently the only prominent observer who makes a report is Dr. Agostino Borini of Turin, Italy, who has made use of it as a vermifuge, and enumerates certain precautions to follow. (*Gaz. degli Osped. e delle Cliniche*, Vol. XXI, p. 52).

Nirvanin (Di-Ethyl-Glycocyl-Para-Amido-Ortho-Oxy-Benzic Acid-Methyl-Ester-Hydrochloride)—one of the more recent substitutes for cocaine—has received considerable attention during the past year, and many comments will be found throughout the current literature. It will therefore only be profitable here to enumerate a few of the prominent ones.

Dr. Braquehay has made a study of this new local anæsthetic in his surgical practice. He calls attention to the fact that no more than 49 milligrammes ($\frac{3}{4}$ of a grain) should be used at one time. The cases in which he has used it successfully include those of cysts,

fatty tumors, different forms of neuromata, epitheliomata, hernias and in dental surgery. His use also extended to operations on the eye and the bladder, and he would conclude that stronger solutions and larger doses than cocaine should be used, as its toxicity and anæsthetic properties are much less, but by gradually increasing the dose the same anæsthetic effects can be produced with far greater safety. (*Bull. Gén. Thérap. Méd.*, Vol. 138, p. 587).

Dr. F. C. Floeckinger of La Grange, Texas, has experimented with this agent with similar results. He tabulates 24 cases. (*New Yorker Med. Monats.*, Vol. XII, p. 343).

Dr. Charles A. Elsberg of New York City has written on "The Anæsthetic Properties of Nirvanin. A Contribution to the Study of the Infiltration Method of Local Anæsthesia." He concludes as follows:

"1. Nirvanin has distinct and valuable anæsthetic properties when injected into the tissues according to the infiltration method.

2. Nirvanin is ten times less poisonous than cocaine, and more than three times less poisonous than eucaine.

3. It has distinct antiseptic properties; a solution of one per cent. or more can be kept as a stock solution and will remain sterile.

4. It is a stable compound and can be boiled a number of times without diminishing to any degree its anæsthetic properties." (*N. Y. Med. Journ.*, Vol. LXXI, p. 47).

From a pharmacological study of Nirvanin, it would seem to be not altogether a harmless agent, and therefore the question of dose must be more carefully considered than some are apt to appreciate.

Nosophen (Tetra-Iodo-Phenol-Phthalein)—the Iodoform substitute—is still being prominently brought before the profession by the energetic promoters of this agent. Some surgeons make use of it as a routine practice and therefore little special comment would be expected from them. It would therefore be quite out of place to attempt to enumerate such allusions, so only the following observer's studies will be mentioned here. Dr. Edwin Klebs of Chicago, Ills., in writing on "Studies on Internal Antisepsis" speaks very favorably of both Nosophen and Antinosin. (*N. Y. Med. Journ.*, Vol. LXXI, p. 217).

Orexin (Phenyl-Di-Hydro-Quin-Azoline)—the appetite promoter and stomachic—is still quite a prominent agent in the hands of the profession. The Tannate of Orexin appears to have met with considerable success. The few observers who have already re-

ported on this form state that it has the advantage over other preparations of Orexin in that it produces no burning sensation in the stomach, and contrary to expectation no constipating effect is produced.

Orthoform (Methyl Ester of π -Amido-*m*-Oxy-Benzoic Acid)—the synthetic local anæsthetic constituted like cocaine—has lost none of its prominence during the past year.

Dr. August Luxenburger of Munich, Bavaria, reports on his "Clinical and Experimental Experience with Orthoform", and concludes that whereas it cannot be classed as true antiseptic it is surely a harmless and most valuable anesthetic. He used it in the form of an ointment and in fine powder—dusted on at times to extremely irritating, granulating surfaces—with the result that within a period of five minutes complete anæsthesia is established and lasts not only hours but in some cases days, depending upon conditions. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 48).

Dr. Bardet reported at a meeting of the Paris Therapeutical Society, on February 7th last the results of his experience in comparing the action of Orthoform with that of such other local anæsthetics as cocaine and nirvanin, with advantages in favor of the former. He found the following formula of much value in the case of painful nipples and in other cases where there was no superficial lesion:

Orthoform	5 grammes	(77.2 grains)
Ether. .sufficient to dissolve		
Oil of Sweet Almond.....20	"	(308.6 ")

He made the interesting observation that if Orthoform be combined with iodoform the disagreeable odor of the latter was much decreased. He attempted to establish a proportion for such a decrease and approximates that if equal parts of Orthoform and iodoform be taken three-quarters of the disagreeable odor of the latter is eliminated. He advises the following ointment for relieving the pain in ulcerated hemorrhoids:

Zinc Oxide.....	20 grammes	(308.6 grains)
Oil of Sweet Almond....	20	" (308.6 ")
Simple Cerate.....	20	" (308.6, ")
Balsam of Peru	x drops	
Orthoform	10 grammes	(154.3 ")

(*Rev. de Thérap.*, Vol. LXVII, p. 117).

Dr. Oui of Lille, France, has had a similar experience in the use of this agent in cracked nipples. He has made use of it both in the form of a paste and in alcoholic solution, producing satisfactory results, but he has a preference for a saturated alcoholic solution placed on a compress which he directs to remain for at least fifteen minutes. (*Gaz. hebdom. de Médecine et de Chirurg.*, Vol. 47, p. 521).

Other observers bear out Dr. Bardet's results, including Dr. Manquat who speaks of its usefulness in dentistry. It very much diminished the pain when extracting a tooth, and in the operation of destroying the pulp the caustic action produced by arsenic is much lessened by combining it with Orthoform. The following formula is recommended:

Orthoform.	5 grammes	(77.2 grains)
Arsenous Acid....	5 "	(77.2 ")
Alcohol	150 Cc.	(about 5 fluidounces)
Water.	150 "	(" 5 ")

More than one observer has made use of this agent hypodermically in the treatment of syphilides, using the following formula given by Dr. Danlos of Paris, France:

Vaselin.	1 Cc.	(16.2 minims)
Mild Mercurous Chloride..	0.05 gramme	($\frac{1}{4}$ of a grain)
Orthoform.	8.00 "	(123.5 grains)

(*La Riforma Medica*, Vol. IV, p. 443).

Dr. Frank H. Murdoch of Pittsburg, Pa., in writing on the topic "The Diagnosis of Gastric Ulcer with Report of Cases", states: "A most important point to be remembered is the fact that the pain of gastric ulcer, at least after the patient has been put upon a proper diet, is promptly relieved by orthoform." (*Phila. Med. Journ.*, Vol. 5, p. 298).

Dr. G. E. Decker of Davenport, Iowa, reports on "Dermatitis Following the Use of Orthoform." He states that:

"During the last year and a half the writer has used orthoform as a dressing in minor injuries with results that justified all the statements made for it as an analgetic and antiseptic powder, except in two cases, which should be reported. The conditions in both these cases were identical, and, as no antiseptic but mercuric chloride was used, it seems clear that the orthoform was to blame." (*N. Y. Med. Journ.*, Vol. LXX, p. 781).

Noting Dr. Decker's two exceptional cases of unpleasant effects from the use of this agent, Dr. H. H. Wilson of Clayville, N. Y., reports one exception to his invariably good results with this agent. (*N. Y. Med. Journ.*, Vol. LXX, p. 976).

Dr. Wunderlich of Neudorf, Austria-Hungary, in reporting on "The Employment of Orthoform", speaks of 4 cases in which disagreeable local results followed the use of an ointment containing this agent, whereas when given in the form of a powder no such effects were produced. (*Muench. Med. Wochensch.*, Vol. XLVI, p. 1298).

Dr. E. Vogt has made use of this agent with much success in the treatment of herpes zoster with only exceptional instances in which unpleasant results followed. He advises the simple dusting on of the dry powder as far preferable to the use of ointments or even solutions. (*Rev. de Thérap. Méd.-Chirurg.*, Vol. 66, p. 829).

Dr. C. R. Gardner of Northampton, Mass., propounds the query "Is Orthoform Always Safe in Keratitis?" He treated a case of malignant ulcer of the cornea by using the following ointment:

Orthoform (new)	200 milligrammes	(3 grains)
Iodoform.	400 "	(6 ")
Cosmoline	about 4 grammes	(1 drachm)

This produced infiltration and extension of the trouble. After discontinuance of its use a satisfactory result followed. (*Ophthalmic Record*, Vol. VIII, p. 570).

It has been reported from some quarters that chloral and Orthoform when brought together exhibit increased hypnotic properties, but it is not yet confirmed by sufficiently extended clinical experience.

Oxycamphor (Oxaphor)—obtained by chemically replacing one atom of hydrogen for the radical HO—alluded to here last year but under the head of camphor, has received more attention during the past year. The formulas recommended during the past year have differed only slightly from the one given here last year.

Dr. Franz Meyer of Berlin, Germany, reports on its use in thirty-four cases of dyspnoea, depending upon bronchial and pulmonary affections, and classes it with heroin in diminishing the excitability of the respiratory centre. His results varied and in such a way that he could not decide that they bore any definite relation to the cause of the dyspnoea. (*Deut. Aertze-Zeitung* for 1900, p. 100).

Dr. Hans Neumayer of Munich, Bavaria, has obtained similar results with Oxycamphor in the treatment of the dyspnoea accompanying cardiac and pulmonary affections. He recommends that it be given on an empty stomach in a large quantity of water. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 349). Unfortunately the price of this combination is still excessive.

Paraldehyde (officinal) is now of such general use in the profession that little comment is called for. It may be worth while mentioning here for the sake of reference that Dr. Cosimo Noto of New Orleans, La., has brought it into new relations by publishing his views "On the Association of Paraldehyde with Chloroform. A New Contribution to the Study of Mixed Anæsthesia." (*New Orleans Med. and Surg. Journ.*, Vol. LII, p. 495). This compound has been alluded to previously under the head of Anæsthesia.

Peronin (Hydrochlorate of the Benzylic Ether of Morphine)—the proposed substitute for morphine—has been little commented upon during the past year although it is evidently still in use.

Petrosulfol is the name given to a new combination whose composition and preparation has not yet been definitely described except that it is like ichthyol and, as will be noted from its composition, contains sulphur. It has been used and recommended by Dr. S. Ehrmann of Vienna, Austria, who writes "On Petrosulfol, a new Bituminous Preparation, in the Treatment of Skin Diseases." He reports that his cases have reached the number of 500, on which he bases his favorable results. In treating an eczema he uses an ointment of varying composition; in the treatment of sweaty hands and feet, dusted on in the form of a powder. (*Wien. klin. Rundschau*, Vol. XIV, p. 355).

Pharmacopœias of the different nations are becoming, greatly to the credit of all, far more interesting works of authority than heretofore. The Pharmacopœia of the United States has received an increased interest during the past year, chiefly for the reason that the Decennial Convention for its revision has already met (May 2nd, 1900) and promulgated the principles on which the edition of 1900 is to be revised. The general principles adopted were about as follows: First in relation to the scope, "The Committee of Revision is authorized to admit into the Pharmacopœia any product of nature of known origin; also any synthetized product of definite composition which is in common use by the medical profession, the identity, purity or strength of which can be determined. No

compound or mixture shall be introduced if the composition or mode of manufacture thereof be kept secret, or if it be controlled by unlimited proprietary or patent rights." Owing to the very exacting food and chemical laws in some of the States in which the Pharmacopœia is relied upon as an official standard, the Committee was directed to exclude from the Pharmacopœia all articles which are strictly of a chemical nature and which are not used medicinally.

In relation to the question of Doses, the following principle was adopted: "For each pharmacopœial article (drug, chemical or preparation) which is used or likely to be used internally or hypodermically, the Committee is instructed to state the average approximate (but neither a minimum nor a maximum) dose for adults, and, where deemed advisable, also for children. It is to be distinctly understood that neither this Convention nor the Committee of Revision created by it intends to have these doses regarded as obligatory on the physician or forbidding him to exceed them whenever in his judgment this seems advisable. The Committee is directed to make a distinct declaration to this effect in some prominent place in the new Pharmacopœia." In regard to Nomenclature, "It is recommended that changes in the titles of articles at present official be made only for the purpose of insuring greater accuracy, or safety in dispensing. In the case of newly admitted articles, it is recommended that such titles be chosen as are in harmony with general usage and convenient for prescribing; but in the case of chemicals of a definite composition a scientific name should be given at least as a synonym."

In relation to Assay Processes, "The Committee is instructed to append assay processes to as many of the potent drugs and preparations made therefrom as may be found possible, provided that the processes of assay are reasonably simple both as to methods and apparatus required and lead to fairly uniform results in different hands. As regards the products of such assays, tests of identity and purity should be added whenever feasible. Physiological tests for determining strength should not be introduced by the Committee." An effort was made to introduce the Serums into the new Pharmacopœia but after some discussion which brought out the fact that there are yet no reliable tests they were excluded.

In relation to the purity and strength of the Pharmacopœia articles, "The Committee is instructed to revise as carefully as possible the limits of purity and strength of the pharmacopœial chemi-

cals and preparations for which limiting tests are given. While no concession should be made towards a diminution of medicinal value, allowance should be made for unavoidable, innocuous impurities or variations due to the particular source or mode of preparation, or to the keeping qualities of the several articles. In the case of natural products, the limits of admissible impurities should be placed high enough to exclude any that would not be accepted by other countries.

Regarding the strength of diluted acids, tinctures and galenical preparations in general, it is recommended that the Committee keep in view the desirability of at least a gradual approach upon mutual concessions towards uniformity with similar preparations of other Pharmacopœias, particularly in the case of potent remedies which are in general use among civilized nations."

In relation to General Formulæ, "It is recommended that general formulæ be introduced, as far as the particular nature of the several drugs will permit, for fluid extracts, tinctures and such other preparations as are made by identical processes, and that the general formulæ to be followed in each case be merely indicated by reference."

"The Committee is instructed to retain the metric system of weights and measures adopted in the Seventh Decennial Revision."

The Committee is authorized to prepare a supplement to the Pharmacopœia whenever it believes such action advisable.

It is hoped that an increased interest may develop, if it does not already exist, in the minds of medical practitioners from the interesting special article on the relations of pharmacy to the medical profession which was published by the *Journal of the American Medical Association*, beginning on page 986 of Vol. XXXIV. As is there stated this series of articles was written with the design of correcting abuses from advertising and from patronizing pharmaceutical specialties, and is well worth the careful attention of every practitioner who would aim at a high standard. For the convenience of those who would look up these articles, it might be of service to mention here that the second part occurs on page 1049, the third on page 1114, the fourth on page 1178, the fifth on page 1327 and the sixth on page 1405.

The British Pharmacopœia has not yet completed the full scope of its last Revision, for the Indian and Colonial Addendum to the 1898 edition has not yet been accomplished as further communica-

tions are being received from the different Colonies, including Canada. It was to be hoped that the final draft would be presented to the General Council at its November meeting so that the Addendum might be authorized for use by the end of this year. This Addendum will be an interesting index of the possibility of the nearer accomplishment of the long looked-for International Pharmacopœia, for the British Colonies are so widely separated geographically that it must include climatic and other interests to a greater extent than with other nations. If they can establish a degree of uniformity, particularly in the more potent remedies, it will be a great step forward to a universal Standard.

The Canadians are alive to the importance of uniformity in standards by reason of the fact that their proximity to the border of the United States brings into confusion the standards of the United States and Great Britain. The *Canadian Pharmaceutical Journal* has called attention to the fact that persons who travel from Canada to the United States and vice-versa find it quite embarrassing. "Accustomed in one country to have preparations of a certain strength, they find in the other that they are either very much stronger or weaker than those which they are accustomed to use at home." For instance the strength of Tincture of Aconite by the British Pharmacopœia is 1 in 20, while that of the U. S. Pharmacopœia is 1 in 2.75. A like difference occurs in such preparations as the Tinctures of Belladonna, Indian Cannabis, Cantharides, Cimicifuga, Colchicum, Digitalis, Gelsemium, Hydrastis, Hyoscyamus, Opium, Strophanthus and others.

The Belgian Royal Academy of Medicine has taken an increased interest in this subject of an International Pharmacopœia by apparently addressing all the foreign countries in relation to at least an attempt to come nearer to an accomplishment of the objects intended, if not the actual result looked-for by some greater enthusiasts.

In revising the Belgian Pharmacopœia, which is now going on, it is stated that about one-third of the present official preparations are to be dropped as being useless. There are, of course, many additions, including the well-known prominent synthetical compounds.

It is now reported that the Fourth edition of the German Pharmacopœia will be in force on January 1st next. Mr. Erich Harnack of Halle, Prussian Saxony, has written an article on this new German Revision, and states that the new drugs already announced

are twenty-five in all. The Committee on Revision endeavored to avoid all patented medicines, but to allow those already official to remain. The most marked change in this Revision occurs in the description of the drugs, as the crude material is described as either in the cut or powder form and thus full descriptions of the entire plant are eliminated. Particular emphasis is laid upon the anatomical and microscopic tests of the plants. In a general way the tests are stricter and the standard of purity is greatly increased.

The new Austrian Pharmacopœia is rapidly progressing, but as yet no definite date is stated for its issue.

In some quarters of Italy the professions of Pharmacy and Medicine showed a tendency to become impatient as to the issue of their new Pharmacopœia, but the Commission found so many new remedies being offered for admission that they asked for more time to study up the claims of each.

The revision of the Mexican Pharmacopœia is being carried out in a similar manner to that of the United States, and a work of far greater merit than the previous one is confidently expected.

Greece is now looking forward to having an official Standard which she has never possessed. She has relied either upon the foreign Standards or upon a private Standard. Now however Dr. A. Damberghis, Professor of Pharmaceutical Chemistry in the University of Athens, has published a new Pharmacopœia which has been recognized by the Government as official.

Phenacetin (Para-Acet-Phenetidin) is still a most prominent antipyretic and analgesic agent, and is very largely used throughout the world. It being such a universal agent little special comment is to be found. However, owing to the lack of actual knowledge of its physiological action, Drs. Horatio C. Wood, Jr., and H. B. Wood, both of Philadelphia, Pa., have made a study of its physiological action. Their conclusions are as follows:

"1. The moderate dose of phenacetin is without any distinct action on any vital organ.

2. Large doses lessen reflexes by a direct action on the spinal cord.

3. Doses of 0.5 gm. per kilo. body weight (equivalent to a little less than one ounce for a 150-pound man) kill by arrest of respiration.

4. Doses even up to 0.5 gm. per kilo. had no distinct effect on the circulation." (*Univ. Med. Mag.*, Vol. XIII, p. 360).

Phenalgin (Ammonium Phenyl-Acetamide)—the new coal-tar derivative offered last year as an antipyretic and analgesic—has had practically no attention paid to it during the past year.

Phenocoll (Amido-Para-Acet-Phenetidin)—the antipyretic—is still largely used, but little direct comment is found in the medical literature of the past year.

Phenosol (Salicyl-Acetic Acid-Para-Phenetidin)—the new synthetic antipyretic compound of last year containing 57 per cent. Phenacetin and 43 per cent. of Salicylic Acid—has received practically no attention during the past year.

Phesin, the derivative of Phenacetin, has received no attention this year.

Piperazin (Di-Ethylene-Di-Amine) is still kept before the profession, and appears to be in favor in some quarters.

Dr. William Fearnley of Harrogate, England, publishes the following note:

“In the spring of 1896 I published in the *BRITISH MEDICAL JOURNAL* a striking case of a gouty patient of mine who had attacks of acute gout every year or oftener whom I advised to take piperazin, and who to the time of his death some years after never had another attack of acute gout. Since then I have had other most striking experiences, for instance:

One of the most ubiquitous, active, and tireless men in Harrogate at this day is a gentleman well over 60, who owes his vigour and health to his habit of taking piperazin. I found him three years ago a great invalid, with a man in attendance upon him throughout every night relieving his wife and daughter who took day duty. About ten months ago I was called to see him, and found him in bed with gout in both feet. He observed my chagrin, and quickly told me it was his own fault—that he had been very well and very busy lately, and had neglected his piperazin.

Harrogate is justly famous as a resort of the gouty, its famous sulphur baths are unequalled. With these baths and the daily unloading of the colon by our sulphur water few cases fail to get complete relief during an ordinary visit; but in the worst cases, where the health is badly broken, or where the patient can spare only a week or ten days, the addition of piperazin to the treatment is invaluable.

In every instance where I come across a gouty patient I never lose the opportunity of impressing him with two facts, namely, that as

long as he lives he will daily generate gout products which will undermine his health if allowed to remain in his system, and that piperazin is a sure solvent of these products. The expense and the trouble of taking it are its only drawbacks, but I impress on the gouty that it is as necessary for them as their daily bread." (*Brit. Med. Journ.*, Vol. II for 1899, p. 1792).

The above note called out the following comment from Dr. Arthur P. Luff of Weymouth Street, London, W., England:

"With reference to the memorandum on this subject by Dr. William Fearnley in the *BRITISH MEDICAL JOURNAL* of December 30th, 1899, I desire to enter an emphatic protest against what I consider is an altogether erroneous view of the treatment of gout, namely, that the continuous taking of any drug for the remainder of life is either necessary or desirable for the prevention of gout. I will put on one side any special reference as to the value of piperazin in gout, about which I, in common with many others, have considerable doubt, as I prefer to limit myself to the main point, that for the treatment or prophylaxis of such a disease as gout it is, in my opinion, wrong and dangerous advice in connection with such a drug as piperazin, to 'impress on the gouty that it is as necessary for them as their daily bread'." (*Brit. Med. Journ.*, Vol. I for 1900, p. 48).

A combination of Piperazin and quinic acid has been introduced under the fancy name of "Sidonal". It is offered as a most efficient uric acid solvent. A sample has been sent to Dr. Blumenthal to make use of in his Clinic and thus determine its value. After a trial he reported at a meeting of the Berlin Society for Internal Medicine that his results showed that it had a marked effect in checking the formation of uric acid in daily doses of from 5 to 8 grammes (77.2 to 123.5 grains). The excretion of uric acid was diminished from 40 to 50 per cent., whereas the hippuric acid was increased. (*Med. Press*, Vol. LXIX, new series, p. 325).

Protargol (the silver compound consisting of 8.3 per cent. of Silver combined with Protein) has lost nothing of its prominence during the past year.

Mr. Sydney Stephenson of London, England, has written an article on "The Place of Protargol in Eye Work", in which he gives it preference over silver nitrate but does not class it as an ideal agent. (*The Edinburgh Med. Journ.*, Vol. VII, p. 256).

Dr. F. C. Hotz of Chicago, Ills., has published "A Few Observa-

tions on the Efficacy of Protargol in Pyogenic Affections of the Eye." He read his paper before the Section on Ophthalmology of the American Medical Association at its meeting in Atlantic City, N. J., in June last, and the discussion which it drew out is interesting. He concludes as follows:

"In summing up my experience I may say that protargol is undoubtedly a very valuable remedy in the treatment of pyogenic affections, but the results are largely governed by the strength of the solution and the frequency and mode of application. During the acute period of pyogenic inflammation the solution should be not less than 20 per cent., and applied at least twice in twenty-four hours; if no decided improvement is noticed, either the strength of the solution or the frequency of application should be increased. It is very essential that the protargol be brought in thorough contact with the affected tissues, and this is, I believe, best accomplished by means of a cotton swab, well saturated with the solution, firmly rubbed over the affected portion of the cornea and conjunctiva, especially the retrotarsal folds. On account of its non-irritating and non-caustic action it is unnecessary to wash the eyes with salt solution or to apply cold compresses after the treatment; nor is it necessary to evert the lids for the treatment of the tarsal and retrotarsal conjunctiva, an advantage greatly appreciated by patient and physician if the lids are much swollen and the eyes very sensitive." (*Journ. Amer. Med. Assoc.*, Vol. XXXV, p. 470).

Dr. J. Ruhemann of Berlin, Germany, has made "A Study of the Internal Administration of Protargol", and points out its marked advantages. In one prominent case of advanced carcinoma of the stomach he states it greatly relieved the symptoms. (*Deut. Med. Wochensch.*, Vol. XXV, Therap. Beilage, p. 66.)

Dr. Wm. L. Baum of Chicago, Ills., has written on "Protargol in Gonorrhea", in which he follows the method of Prof. A. Neisser of Breslau, Germany, with satisfactory results in fifty patients. (*Medicine*, Vol. V, p. 555).

Dr. John Moir of Edinburgh, Scotland, has written an article on "Protargol versus Nitrate of Silver" (*Med. Press and Circular*, Vol. LXIX, new series, p. 421).

Pyoktanin (Methyl-Violet)—the anilin dye "pus destroyer"—is still made use of in purulent ophthalmia, gonorrhea and follicular tonsillitis. The most prominent observer reporting this year

is Dr. M. F. Coomes of Louisville, Ky., of the Editorial Staff of the *American Practitioner and News* (Vol. XXIX, p. 194).

Pyramidon (Di-Methyl-Amido-Antipyrin)—one of the new substitutes for Antipyrin, now of two years' standing—has received some attention during the past year.

Dr. Klein has written a "Contribution to the Study of Pyramidon", and claims that it is an efficient analgesic in cases of migraine in which antipyrin was quite intolerant. A dose of 600 milligrammes (about 9.8 grains) at once relieved the pain. The antipyretic dose he found to be from 200 to 300 milligrammes (about 3.0 to 4.5 grains), reducing the temperature $1\frac{1}{2}$ to 2 degrees, holding it down for about four hours and producing a copious perspiration. (*Les Nouveaux Remèdes*, Vol. 16, p. 76).

Dr. Julius Pollak of Vienna, Austria, has written on this agent. (*Wien. klin. Wochensch.*, Vol. XIII, p. 60).

Dr. W. Pauli reports two cases of unfortunate symptoms produced after the administration of this agent.

Pyrantin (Para-Eth-Oxy-Phenyl-Succinimid)—the new antipyretic compound of two years ago—has been unheard of in the medical literature of the past year.

Pyrogallol (Pyrogallic Acid) although still much in use, particularly in a chemical way, has received no prominent attention in the current medical literature of the year.

Pyrosal—the new synthetic antipyretic compound of last year containing 50 per cent. of Antipyrin, 36 per cent. Salicylic Acid and 14 per cent. of Acetic Acid—has received practically no attention during the past year.

Resorcin (official) continues to be a prominent agent and no doubt will remain so. Only a few of the many comments made throughout the past year can be referred to here.

Dr. James E. Blomfield of Sevenoaks, England, first felt induced to record the following short experience as it bears on the question of local infection of wounds in removing malignant growths:

"In the year 1891 a patient presented himself with a typical epithelioma of the lower lip. This was removed in a London hospital in May of that year. In June, 1892, the growth recurred, but I was struck with the fact that it did not originate in the original linear scar, but about one-eighth of an inch off. This I removed with the usual V incision. In September of the same year there was a second recurrence, but I do not recollect its exact relation to

the original scar. This I removed again, and remembering the action of resorcin on rodent ulcer, I put some of the powder into the wound. The result was that there was no immediate union, but delayed healing from a ragged ulcer with a better result than I anticipated. Since that date my patient has had no recurrence, and the cicatrix in the lip causes him no trouble.

There can be no doubt as to the value of resorcin in rodent ulcer. I have lately had a typical case, which was cured in five or six weeks by rubbing in the powder every night after removing the crusted covering and ceasing the application when the reaction was excessive." (*Brit. Med. Journ.*, Vol. I for 1900, p. 1340).

Dr. Léopold Chauveau of Paris, France, recommends the following solution to be used three or four times daily for the nasal obstruction noticed in the new born infant:

Resorcin	1 gramme (15.4 grains)
Vaselin.	40 grammes (about 1½ ounces)

(*Gaz. hebdom. de Méd. et de Chirurg.*, Vol. 47, p. 325).

Prof. E. Besnier of France recommends the following formula in the treatment of acne vulgaris:

Resorcin.	3 to 5 grammes (46.3 to 77.2 grains)
Powd. Starch.	5 " (77.2 ")
Zinc Oxide.	5 " (77.2 ")
Vaselin	15 " (about 4 drachms)

This is applied in the evening and can be readily removed in the morning by the use of a little olive oil and tar water. (*Journ. de Méd. de Paris*, Vol. XI, second series, p. 451).

A condensation product of Resorcin with Chlor-Methyl-Salicyl-Aldehyde has been given the name of "Resoldol". Dr. Hermann of Charlottenburg, Germany, recommends it favorably in the treatment of catarrhal affections and ulcerations throughout the intestinal tract. He has made use of doses varying from 3 to 5 grammes (46.3 to 77.2 grains). (*Therap. Monats.*, Vol. XIV, p. 199).

Roentgen Rays (X-Rays) and the discussion throughout their wide field of application has not lost any interest during the past year. In fact the developments have been so astonishing and rapid in some quarters that it is difficult to follow them up. It will be quite out of the question to enumerate here all the comments of the past year, therefore it will only be advisable to do little else than

classify the prominent references so that those who are particularly interested in this line of study may make use of these expressions of opinion.

A short general run over the ground for the past year may be obtained by referring to an article written by Dr. Eduard Schiff of Vienna, Austria, on "The Therapeutical Value of the X-Rays in Medicine." (*Brit. Med. Journ.*, Vol. I for 1900, p. 1082).

A very complete symposium on the work accomplished up to date has been given in a special number of *The Philadelphia Medical Journal* (Vol. 5, pages 1 to 76 inclusive). Every one interested in this topic should possess this particular copy.

There have been many improvements in the form of apparatus, and probably all those who are particularly interested know where to find such.

Prof. John Trowbridge of Harvard University has continued to work with these Rays and in his latest investigations so manages the electric current used in Ray examinations as to obtain a greatly improved photograph of the parts of the body, particularly the bones. Prof. Trowbridge has contributed an article on the "Latest Developments with the X-Rays" in the *Popular Science Monthly* (Vol. LVI, p. 659).

Dr. Julius Wolff of Berlin, Germany, has published an interesting article on "The Demonstration of Bone Structure by Roentgen-Ray Pictures." (*Berlin. klin. Wochensch.*, Vol. XXXVII, pages 381 and 414).

Dr. Francis H. Williams of Boston, Mass., is still interested in this subject and describes now how these Rays can be made use of in the examinations of the abdomen as a supplement to the usual methods. (*Boston Med. and Surg. Journ.*, Vol. CXLII, p. 23).

Dr. Charles Lester Leonard of Philadelphia, Pa., has written on the "Recent Progress in the Roentgen-Ray Methods of Diagnosis." (*Journ. Amer. Med. Assoc.*, Vol. XXXV, p. 147).

Dr. J. Rudis-Jicinsky of Cedar Rapids, Iowa, has contributed some "Notes Upon X-Rays and Injuries of the Head." (*N. Y. Med. Journ.*, Vol. LXX, p. 801).

Dr. George H. Rodman of East Sheen, England, has published an account of two cases as "An Example of the Use of the X-Rays in the Examination of Enlarged Metatarso-Phalangeal Joints", giving two clear illustrations (*Brit. Med. Journ.*, Vol. I for 1900, p. 1083).

Dr. Th. Tuffier, Surgeon to the Hôpital Lariboisière, communi-

cated an article to the Paris Surgical Society on December 13th last on the reduction of fractures by the aid of the Radiograph, particularly in relation to the arm and the region of the shoulder. (*La Presse Méd.*, Vol. 8, first half, p. 17).

Dr. E. A. Codman of Boston, Mass., read a paper before the meeting of the Boston Society for Medical Improvement on March 19th last on "A Study of the X-Ray Plates of One Hundred and Forty Cases of Fracture of the Lower End of the Radius." (*Boston Med. and Surg. Journ.*, Vol. CXLIII, p. 305).

At a meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland on February 23d last, "Mr. George J. Goldie demonstrated the usefulness of the X-Rays in dental cases where other methods of diagnosis had failed." (*London Lancet*, Vol. I for 1900, p. 939).

Mr. Prosper H. Marsden of Liverpool, England, has recently written an article for the special purpose of interesting the dental surgeons in the use of these Rays in their profession, for he realizes how little has been done with them in that line of practice. (*Pharm. Journ.*, Vol. X, Fourth Series, p. 531).

Dr. Guido Holzknecht of Vienna, Austria, has made quite a study of the normal relations of the thoracic aorta by means of these Rays. He publishes his results in the form of an article illustrated with 11 satisfactory pictures. (*Wien. klin. Wochensch.*, Vol. XIII, p. 225). He then followed this up by studying the pathological relations in the same region and contributed his results in a second article to be found in the *Wien. klin. Wochensch.*, (Vol. XIII, p. 573).

In diagnosing aneurisms of the aorta, Dr. Gisbert Kirchgaesser of Bonn, Rhenish Prussia, points out after a considerable study that it is not altogether desirable to rely too much on the Roentgen Rays. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 646).

In the same line of observation Arthur W. Goodspeed, Ph.D. of the University of Pennsylvania calls attention to the fact that experience is quite an essential factor in order to make use of satisfactory radiography. (*Univ. Med. Mag.*, Vol. XIII, p. 346).

Dr. Charles Lester Leonard of Philadelphia, Pa., calls attention to "The Limitations and Value of Fluoroscopic Examinations." (*N. Y. Med. Journ.*, Vol. LXXI, p. 17).

Dr. Carl Beck of New York City in emphasizing the great value of these Rays, particularly in relation to fractures, calls attention

to "a grave possible error" in an article illustrated with four distinctive cuts. (*N. Y. Med. Journ.*, Vol. LXXI, p. 5).

Later Dr. Beck writes again and calls attention to the "Errors Caused by the False Interpretation of the Roentgen Rays, and Their Medico-Legal Aspects." (*N. Y. Med. Record*, Vol. 58, p. 281).

In a recent discussion which took place in the Paris Surgical Society, Prof. Lucas-Championnière of Paris, France, pointed out the unreliability of the X-Rays in cases of fracture, particularly when the examination is undertaken by ignorant and incapable men. (*Bull. et Mém. de la Soc. de Chirurg.*, Vol. XXV, p. 978).

Dr. Edward A. Tracy of South Boston, Mass., calls attention to "The Fallacies of X-Ray Pictures." (*Phila. Med. Journ.*, Vol. 5, p. 134).

The valuable "Report of the Committee of the American Surgical Association on the Medico-Legal Relations of the X-Rays" was read by Dr. J. William White of Philadelphia, Pa., at the meeting in May last. (*Amer. Journ. Med. Sciences*, Vol. CXX, p. 7).

Drs. T. Mellor Tyson and William S. Newcomet of Philadelphia, Pa., call attention to the "Practical Use of Radiograph and Fluoroscope in Diseases of the Lungs." (*Journ. Amer. Med. Assoc.*, Vol. XXXIV, p. 67).

Dr. Francis H. Williams of Boston, Mass., contributes an article on "The Value of X-Ray Examinations in the Less Frequent Diseases of the Chest Illustrated by Their Use in Those Cases where Aneurism is Present or Suspected." (*Boston Med. and Surg. Journ.*, Vol. CXLII, p. 85).

Dr. Williams also contributes a "Note on X-Ray Examinations of the Lungs." (*Boston Med. and Surg. Journ.*, Vol. CXLII, p. 555). Again he has something to say on "X-Ray Examinations for Life Insurance Companies." (*Boston Med. and Surg. Journ.*, Vol. CXLI, p. 659).

Dr. Carl Beck of New York City contributed an article to the New York County Medical Association at its meeting on October 16th last "On the Detection of Calculi in the Liver and Gall Bladder." (*N. Y. Med. Journ.*, Vol. LXXI, p. 73).

Dr. Charles Lester Leonard of Philadelphia, Pa., contributes an article on "The Technique of the Positive and Negative Diagnosis of Ureteral and Renal Calculi by the Aid of the Roentgen Rays" relating fifty-nine cases. (*Annals of Surgery*, Vol. XXXI, p. 163).

Dr. John MacIntyre of Glasgow, Scotland, has made a special

study of these Rays in diseases of the nose, throat and surrounding organs. In making an urgent plea for the systematic use of these Rays as a means of diagnosing, he emphasizes the fact that they can be only used as an aid to such diagnosis even though in some cases confirmation could not be attained otherwise than by their use. He believes that not only fractures and other injuries of the bony parts could be thus readily detected, but the position of any foreign bodies throughout the nasal cavities accurately determined.

Dr. Victor Blum of Vienna, Austria, has put on record a case of his in which an œsophageal diverticulum was diagnosed successfully by means of the X-Rays. (*Wien. klin. Wochensch.*, Vol. XIII, p. 256).

Dr. Wm. Allen Pusey of Chicago, Ills., has made a study of the "Roentgen Rays in the Treatment of Skin Diseases and for the Removal of Hair." (*Chicago Med. Recorder*, Vol. XVIII, p. 279).

Dr. James Startin of England has done some successful work in the "Destruction of Superfluous Hair by the Roentgen Rays." (*London Lancet*, Vol. I for 1900, p. 654).

Dr. Neville Wood of Elvaston-place, London, S. W., England, has worked in the same line. (*London Lancet*, Vol. I for 1900, p. 231).

Dr. Robert Ernest Scholefield of Blackheath, London, S. E., England, has contributed an article on the "Treatment of Lupus by the X-Rays" with seven illustrative cuts. (*Brit. Med. Journ.*, Vol. I for 1900, p. 1083).

Drs. R. Hahn and Albers-Schönberg of Hamburg, Germany, have made a study of "The Treatment of Lupus and Skin Diseases by the X-Rays." (*Muench. Med. Wochensch.*, Vol. XLVII, p. 284).

Mr. J. F. Hall-Edwards of Birmingham, England, contributes a paper "On the Physiological and Therapeutic Effects of the Roentgen Rays; The Treatment of Lupus," giving two fine full-page plates. (*Edinburgh Med. Journ.*, Vol. VII new, p. 139).

The results of Prof. Finsen's observations have been followed up closely throughout the past year in most every part of the world. In this immediate neighborhood probably one of the first to have an apparatus built on the principle of Prof. Finsen's was Dr. George G. Hopkins of Brooklyn who exhibited a Finsen tube at the meeting of The Kings County Medical Association held on Tuesday evening November 14th last.

Dr. Stephen Mackenzie of London, England, paid a visit to the

Finsen Institute in Copenhagen, and after returning home prevailed upon the authorities in the London Hospital to fit up a department with all the necessary appliances. An account of his visit will be found in the *British Journal of Dermatology* (Vol. XI, p. 427).

Nearly every well-equipped modern hospital throughout the civilized nations has an X-Ray room, but few as yet have a room for Finsen's "Light Treatment."

The Dowager Empress of Russia became so much interested in this line of treatment that she founded an Institute in St. Petersburg.

Dr. L. Stembo of Wilna, Russia, speaks highly of the pain-soothing effect of the Roentgen Rays. He claims to have cured 21 out of 28 cases of severe neuralgia, usually after three sittings of from three to ten minutes in length. (*Die Therapie der Gegenwart*, Vol. 41, p. 250).

The controversy on the cause of X-Ray dermatitis has become quite active in some quarters, and Dr. Philip Mills Jones of San Francisco, Cal., propounds a few questions. (*Phila. Med. Journ.*, Vol. 5, p. 187).

Dr. Patrick Cassidy of Norwich, Conn., publishes a "Report of a Severe X-Ray Injury." (*N. Y. Med. Record*, Vol. 57, p. 180).

Dr. Thomas L. Butler of Louisville, Ky., makes "Some Remarks on X-Ray 'Burns' with Report of Cases Seen." (*Amer. Pract. and News*, Vol. XXIX, p. 368).

Dr. Walter B. Metcalf of Chicago, Ills., also reports on "X-Ray Burns." (*Phila. Med. Journ.*, Vol. 4, p. 1100).

Salipyrin (reported to be a true Salicylate of Antipyrin) is still receiving the attention of the profession, although little commented upon. It is chiefly used by the gynecologists.

Salol (Phenyl Salicylate)—official—has lost none of its prominence during the past year. On the contrary it has been pressed into notice in a somewhat new field.

Dr. Charles Begg of Bridge of Allan, Scotland, called attention to the use of Salol in small-pox as being most striking in his experience. (*Brit. Med. Journ.*, Vol. I for 1900, p. 16).

He then read a paper relating his clinical experience with Salol in the treatment of small-pox in China at the meeting of the Edinburgh Medico-Chirurgical Society on January 17th last. (*Brit. Med. Journ.*, Vol. I for 1900, p. 512).

Drs. John Biernacki and P. Napier Jones (who worked in Dagenham Hospital) have contributed an article in the same line as Dr. Beggs. Over a score of cases were observed and are now reported on.

"All but 8 of these, however, were greatly modified by vaccination, and, although they did well under salol, reference to them is omitted because such a result was almost certain apart from treatment. In one instance a patient complained of slight irritation, while in another the salol produced marked depression. The history of the 8 remaining cases is given in outline, only the salient facts being mentioned. For convenience in following the development of the rash the duration of the disease is generally calculated from the time of its appearance instead of from the day of onset." These observers conclude as follows: "On the whole, the statement is justified that salol affords a means of treating small-pox superior to the methods in vogue." (*Brit. Med. Journ.*, Vol. I for 1900, p. 1337).

Dr. Begg immediately acknowledged having read this testimony in a note expressing his satisfaction at a confirmation of his own observations as made in China. (*Brit. Med. Journ.*, Vol. II for 1900, p. 127).

Dr. W. E. Fothergill of Manchester, England, and Mr. John Penny have made use of petroleum with Salol in the treatment of infantile diarrhea, thus avoiding the use of opium and astringents. (*Med. Chronicle*, Vol. 3, p. 17).

Dr. Edward F. Nunez of Santiago, Cuba, contributes an article on "The Treatment of Yellow Fever by the Use of Potassium Bitartrate and Salol." (*Phila. Med. Journ.*, Vol. 4, p. 935).

Dr. Sluyts of Antwerp, Belgium, in carrying on his experimental researches has discovered Salol to be an excellent urinary antiseptic. (*Centralblatt für Chirurg.*, Vol. 27, p. 99).

At a meeting of the Central Medical Society of the North of France on November 10th last, Dr. Combemale reported a case of scarlatiniform eruption after the use of Salol. The eruption appeared on the day following the administration of only 1 gramme (15.4 grains) of Salol. (*Gaz. hebdom. de Méd. et de Chirurg.*, Vol. 47, p. 1126).

Salophen (Acetyl-Para-Amido-Salol) needs no additional testimony to bring it to any increased attention in the medical profession. It has become such a universal agent that little direct com-

ment is now to be found in the medical literature. A careful and impartial summary of all the clinical evidence up to the present will accord it the first place as an antirheumatic, antineuralgic and intestinal antiseptic in the hands of many practitioners.

Dr. Edward C. Hill of Denver, Colo., in "A Study of Salophen" speaks of it as above. He has made use of it in several hundred cases. (*Denver Medical Times*, Vol. XIX, p. 254).

In England, Dr. T. Poyntz Wright of London reiterates the experience of English practitioners in an article "On the Therapeutic Value of Salophen." He believes it to be a most efficient substitute for the salicylates. (*Med. Press and Circular*, Vol. LXIX, new series, p. 83).

Sanatogen (Sodium and the Casein Glycerino-Phosphate prepared from Milk Casein) although little commented upon throughout the year is undoubtedly used successfully in a great variety of affections, and has been given more attention during the past year than in the year previous.

Dr. Eduard Rybiczka of Vienna, Austria, has contributed his "Therapeutic Studies with Sanatogen", meeting with success almost universally. (*Wien. klin. Wochensch.*, Vol. XIII, p. 209).

Sanose (the albuminous preparation containing 80 per cent. Casein and 20 per cent. Albumose, which is not a chemical combination but rather a mechanical mixture), although little commented upon during the past year is undoubtedly largely used with satisfactory results.

Sapodermin is the name which has been given to an albuminate of mercury which has come to the front lately. It has not received much general attention as yet, but Dr. George J. Bucknall of San Francisco, Cal., has made use of it successfully in the treatment of parasitic and fungoid diseases. He describes it as follows:

"Sapodermin is a soap in which the bichloride of mercury is incorporated with triple refined stearin and glycerin. The bichloride is therefore changed into an albuminate of mercury, which is highly active as an antiseptic, destructive to all forms of parasites, fungoid and bacterial growths, yet leaving the skin in a soft, velvety, and pliable condition. There has been no absorption so far as I have been able to judge, and its action is so thorough that I consider it worthy of extensive employment." (*N. Y. Med. Journ.*, Vol. LXXI, p. 253).

Somatose—the tonic and nutrient—has lost little of its prominence during the past year. Of course enterprising manufacturers and their representatives are very energetic in keeping this agent before the profession, and therefore most practitioners are well supplied with an abundant evidence of its efficiency. It would thus be superfluous to repeat here what had been already repeated so many times, and the only article which is note-worthy, outside of what has been widely distributed by the above mentioned means, is one on "The Assimilation and Elimination of the Iron of Iron Somatose in the Normal Organism" by Dr. W. Nathan of Elberfeld, Rhenish Prussia. He carried on a series of experiments with mice and his results are interesting reading. His article is illustrated with five cuts of the villi of the intestinal tract. (*Deut. Med. Wochensch.*, Vol. XXVI, p. 132).

Strontium, particularly in the form of the Bromide, still engages the attention of many practitioners. It has long been known that Potassium Bromide has been almost universally resorted to in the treatment of epilepsy, but it has also been recognized that as large doses were necessary a patient rarely escaped the danger of bromism. Therefore when Prof. J. V. Laborde, a French observer and others recommended the Strontium Bromide it was hailed with much satisfaction owing to the fact that as it was far better tolerated, the dose could be rapidly increased and the general condition of the patient was better maintained. As an additional illustration of the preference for this Bromide over and above what was given here last year, the experience of only one observer is of any particular value.

Dr. N. Cullinan of "Pontymister, Mon.," writes as follows:

"Various drugs are employed in the treatment of this disease and of them the most commonly used are the bromides in some form or other, each practitioner having his own particular formula. The one I find to act most surely and effectually is the bromide of strontium given in variable doses to suit the age and condition of the patient in combination with syrup of orange-peel and infusion of calumba, and if no irritability of the stomach exists I add 10 grains of borax to each dose. A good result is generally found to ensue in a short time. An aperient—a blue pill followed by a Seidlitz powder—acts beneficially. The bromide in this form is well borne by the stomach and may be continued for an indefinite period without affecting the mental condition or producing that intense depression

so often caused by the potassium salt. The dose I usually give is one drachm for an adult four times a day after a light meal and proportionate doses for children according to their age."

He then relates two illustrative cases and concludes as follows:

"Altogether I have treated 11 cases in this way with the drug and the results are satisfactory. The points which I consider to be of essential importance in the course of treatment of this affection are plain good food in moderate quantities, regular and sufficient exercise, total abstinence from alcoholic drinks, plenty of sleep, avoidance of mental worry or excitement—in fact, the leading by the patient of a consistent life.

My experience of the various bromides is that the preparation with strontium is far more effectual in the treatment of epilepsy than is that with potassium, sodium, or ammonium. Its sedative action is well marked, causing but slight, if any, disturbances of the gastric functions and appearing to act as a tonic to the nervous system generally. It does not impair the mind of the patient or produce anæmia; while, on the other hand, the external evidences of improved blood-supply are well marked. On the whole it tends to produce a healthier tone of mind and body. The addition to each dose of the salt of 10 grains of borax appears to act beneficially, but has the disadvantage, if continued for a time, of causing a low form of gastritis with flatulence which is very distressing to the patient. Otherwise I believe it to be a good adjunct in the treatment." (*London Lancet*, Vol. II for 1899, p. 958).

Sulphonal (Di-Ethyl-Sulphon-Di-Methyl-Methane) calls for no attention here to emphasize its usefulness. A few comments in relation to unfortunate results only will be mentioned.

Dr. Augustus H. Bampton of "Ilkley-in-Wharfedale," England, calls attention to the "Toxic Cumulative Effect of Sulphonal and Trional." (*Brit. Med. Journ.*, Vol. II for 1899, p. 1249).

Dr. R. Percy Smith of "Bethlem Royal Hospital", England, reports "A Case in which 300 Grains (about 19.5 grammes) of Sulphonal were taken in two doses." He states: "It is worthy of note that in this case the drug was not obtained in the form of a proprietary article, but in the form a standard British Pharmacopœia preparation without a prescription." (*Brit. Med. Journ.*, Vol. I for 1900, p. 136).

Drs. A. E. Taylor and J. Sailer have published an interesting case illustrating the same "rare condition resulting fatally, from

the habit of taking Sulphonal." A digest of the case will be found in the London *Lancet* (Vol. II for 1900, p. 269).

Dr. Amelia Zeigler of Portland, Oregon, publishes the "Report of a Case of Sulphonal Poisoning" in which as nearly as can be estimated 125 grains (about $8\frac{1}{4}$ grammes) were taken at one dose. (*Med. Sentinel*, Vol. VIII, p. 161).

Tannalbin (a compound of Tannin and Albumin) is still kept prominently before the profession by the enterprising agents of this compound. Undoubtedly much is used with apparently good results.

Tannigen (Di-Acetyl-Tannin)—the odorless and tasteless form of Tannin, insoluble in water and acids but readily soluble in alkaline solutions—has called out few comments during the past year.

Dr. Karl Manasse of Wurtemberg, Germany, claims to have obtained excellent results from its use in the treatment of acute intestinal catarrh. He recites eighteen cases. (*Therap. Monats.*, Vol. XIV, p. 27).

Dr. Charles M. Clark of Chicago, Ills., relates his "Experience with Tannigen" in which he expresses his belief that it is worthy of a more extended investigation by the profession. (*Ther. Gaz.*, Vol. XXIV, p. 372).

Tannocol (the combination of equal parts of Tannin and Gelatin)—the new intestinal astringent mentioned here last year—has received practically no attention in the current medical literature of the year, except possibly repetitions of previous notes.

Tannoform (the condensation product of Tannin and Formaldehyde) is still prominently before the profession, but has called out little direct comment during the past year.

Tannopin (Hexa-Methylene-Tetramine-Tannin)—the condensation product containing 87 per cent. of Tannin and 13 per cent. of Urotropin (Urotropin-Tannin)—has not received much attention in the current literature of the past year.

Dr. Carl Tittel of Vienna, Austria, reports some excellent results in infantile intestinal affections, and considers it far superior to any other of the more recent astringents.

Dr. Eugen Doernberger of Munich, Bavaria, gives like testimony and states that the only disadvantage standing against it is its expensiveness. He takes pains to tabulate his successful cases. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 464).

Terpinol (produced by the action of dilute sulphuric acid on Oil of Turpentine) is only mentioned here to call attention to the observations of Dr. F. G. Janowsky of Kiew, Russia, in relation to its marked efficiency in checking the hemorrhage in pulmonary tuberculosis. He administered it in doses of three drops at frequent intervals. If the hemorrhage is checked after a period of twelve hours the dose is reduced to two drops every two hours, or three drops every three hours. In his experience hemoptysis when due to congestion is not controlled by this agent (*Klin.-Therap. Wochens.*, Vol. VII, p. 230).

Thiocol (Potassium Sulpho-Guaiacolate, containing 60 per cent. of Guaiacol) was a comparatively new compound when alluded to here last year. It has now received more attention, and reports of its use have been made from various quarters.

Dr. J. W. Frieser of Vienna, Austria, relates his experience in the treatment of pulmonary tuberculosis and catarrhal affections of the air passages. He admits that although sufficient time has not yet elapsed to show how much the improvement gained is due to this agent, he claims that surely a dose of from 1 to 1.5 grammes (15.4 to 23.2 grains) given three times daily increases the strength of the patient with extreme rapidity and without either upsetting the digestion or exhibiting other unpleasant symptoms, even when administered for a lengthy period. He prescribes it in the form of a solution in syrup of orange which goes by the proprietary name of "Sirolin" (*Therap. Monats.*, Vol. XIII, p. 651).

Dr. Fritz Oelberg of Vienna, Austria, not only agrees to the above observations but is led to believe that it is the most satisfactory agent yet offered for the treatment of pulmonary tuberculosis. His cases numbered twenty-eight, including children and adults. (*Wien. Medizin Presse*, Vol. XLI, p. 394).

Dr. John Moir of Edinburgh, Scotland, states that up to the present time he had had the opportunity of making use of this agent in nine cases of pulmonary tuberculosis with excellent results. All of his cases were among the poorer classes where they were surrounded by unhygienic influences, and therefore the improvement shown was very marked. (*The Therapist*, Vol. X, p. 87).

Dr. Ad. Fasano of Naples, Italy, reports very striking results from the use of this agent in tubercular laryngitis. He publishes his results in an article "On the Treatment of Tuberculosis of the Larynx." His cases were fourteen in all—11 secondary and 3 pri-

mary. The ulcers in all his cases healed in less than a month. He employed insufflations of a powder made according to the following formula:

Thiocol	0.10 to 0.15 gramme	(1½ to 2¼ grains)
Cocaine Hydrochlorate..	0.40	" (6½ ")
Boric Acid	1.00	" (15.4 ")

In addition he administered small doses of the agent internally. (*Klin.-Therap. Wochensch.*, Vol. VII, p. 706).

Thiol (synthetic Ichthyol), although very largely used, has received little direct comment in the current literature of the year.

Thiosinamin (Allyl-Sulpho-Carbamide) has received practically no attention in the literature of the year past.

Thyroid Extract (Thyro-Iodin) has probably not absorbed quite so much attention during the past year as in the year previous, although it is still surely a very prominent agent before the medical profession.

Dr. Charles E. Hirsh of New York City in "A Clinical Contribution to Thyroid Therapy" states that: "Although not quite ten years have elapsed since the introduction of the thyroid gland as a therapeutic agent this treatment has been utilized in a large variety of diseases." He goes over the ground in an interesting way and calls attention to the fact that the conflicting testimony as to the value of this treatment is evidently due in large measure to the variation in the preparation employed. (*Med. News*, Vol. LXXVI, p. 294).

Since this time last year, Dr. Edwin Klebs of Chicago, Ills., has made a report to the Tuberculosis Commission in Munich, Bavaria, on the results of his trials and studies in the use of this Extract in the treatment of tuberculosis. A short digest will be found in the *Berlin. klin. Wochensch.* (Vol. XXXVI, p. 1100).

Dr. Max Porges of Marienbad, Bohemia, after a somewhat extended clinical experience, reports that although this Extract is often found of value, it is unsuitable in the treatment of those who are corpulent. (*Prager Med. Wochensch.*, Vol. XXV, p. 61).

Favorable reports seem to be increasing in regard to this Extract when given in the treatment of delayed union of fractures. Sufficient study has not yet been made in this line to draw any decided conclusions, but the testimony now increasing will undoubtedly enable surgeons to draw very definite conclusions later. Dr. E.

Potherat reported at a meeting of the Paris Surgical Society on November 29th last, two cases of imperfect consolidation of fractures treated and cured by the administration of Thyroidin. In some few of the cases this line of treatment completely failed, but in the majority it produced prompt and striking results. (*Bull. et Mém. de la Soc. de Chirurg. de Paris*, Vol. XXV, p. 896).

Dr. Francis W. Murray of New York City reports on "Thyroid Medication in the Treatment of Delayed Union of Fractures", in which he reviews the literature and reports a case. He acknowledges that the result was not completely satisfactory, but gradual improvement was noticed after beginning this form of treatment. He therefore gives considerable credit to the Extract, particularly as little sign of progress was being made before prescribing it. (*Annals of Surgery*, Vol. XXXI, first half, p. 695).

Dr. Richard B. Leeper of Dublin, Ireland, reports three "Cases Complicated with Mental Disorder Treated by Thyroid Extract." He concludes as follows:

"The administration of thyroid extract owes its remedial results to its direct stimulation of the cortex and the increased metabolism thereby induced among its elements. The rise of temperature is, however, not the most constant symptom of reaction. To the increased pulse-rate and quickened circulation must presumably be attributed most of the good effects of the treatment.

If conditions of mental exaltation and depression are due to alterations in the cerebral circulation, then in thyroid substance we possess a remedy capable of influencing mental symptoms in no small way. Its usefulness in melancholia has been widely proved, and its action in reducing blood pressure must not be lost sight of in this affection. With an increase of our knowledge of the functions and mode of action of the secretions of the ductless glands, will be found a solution to many of the problems of psychiatry." (*Brit. Med. Journ.*, Vol. I for 1900, p. 194).

Drs. William F. Drewry and J. M. Henderson of Petersburg, Va., have made a "Clinical Study of Thyroid Extract." Their cases were eighty-eight in number and were insane patients in the Central State Hospital at Petersburg. They were selected cases as fairly representing the whole number of inmates in the hospital, and included several types of insanity. They came to the conclusion that this Extract is very limited in its usefulness in any form of insanity. They would only recommend its being still further placed on trial

after every other rational line of treatment had failed. (*Virginia Med. Semi-Monthly*, Vol. V, p. 174).

Dr. A. Flourens of Bordeaux, France, has published a monograph on "Thyroid Medication", giving sixteen excellent reproductions from photographs.

Trional (Di-Ethyl-Sulphon-Methyl-Ethyl-Methane) continues to be pushed forward as a reliable substitute for sulphonal, and meets with some success from limited quarters. Several efficient formulas have been recommended for its administration, most of which contain oil of sweet almonds and some agreeable flavoring water. Poisoning cases are still being recorded but rarely result fatally.

Dr. Warren Coleman of New York City contributes an article on "Acute Trional Intoxication." (*Med. News*, Vol. LXXVII, p. 129).

Dr. Augustus H. Bampton of "Tikley-in-Wharfedale," England, calls attention to the "Toxic Cumulative Effect of Sulphonal and Trional." (*Brit. Med. Journ.*, Vol. II for 1899, p. 1249).

Tropon (a substitute for natural albumin, made from two parts of albumin derived from a vegetable source and one part of albumin derived from an animal source) is still kept prominently before the profession by the enterprising manufacturers and agents. As it contains about 90 per cent. of pure albumin it is looked to as being of some value in the sick room when added to soups and other articles of diet.

Dr. A. Lichtenfeld of Berlin, Germany, has written an article "On Tropon" which may be interesting to those who would like to read his testimony in behalf of this agent. (*Berlin. klin. Wochens.*, Vol. XXXVI, p. 918).

Tuberculin (Parataloid) is being pretty thoroughly discussed, and it is to be hoped with much good effect. Two editorials on the Tuberculin Test are well worth repeating here:

"The present antituberculosis agitation seems likely to bring up some questions of medical casuistry, one of which is: Is it justifiable in all cases to use, as a diagnostic method, any measure that may arouse to pernicious activity a latent or quiescent morbid condition? Can we use the tuberculin test with a free hand until we are sure that the results may not be disastrous in certain cases? According to a recent advocate, this possibility is a recommendation rather than an objection. 'The patient with tuberculosis active or passive,' he says, 'is living over a veritable sleeping Vesuvius apt to

become active at any time and produce the most fatal results. The test is most valuable which finds the disease earliest.' But people do live many years with latent or encysted foci of the disease, suffering nothing from it and spreading no contagion, and may even live out their natural term of life happily unconscious of the 'sleeping Vesuvius' which, undisturbed, continues to sleep. Is it not the true wisdom in such a case to 'let the sleeping dog lie?' In his recently published and highly commended work on tuberculosis, Dr. S. A. Knopf commits himself decidedly against this test. He says that while it may do nothing but reveal a latent tuberculosis in 999 cases, in the thousandth it may cause an unexpected and rapidly fatal generalization of the disease. Evidently others do not share his conservatism, for the tuberculin test is being largely used and is strongly recommended, notwithstanding the fact that death has occurred even within two days after the injection. How many latent cases have been revived into activity is unknown—there are no records. It has not only been used in doubtful cases, but in those not suspected of the disease, and in a considerable number who have reacted but have not been certainly proven tuberculous. The question is: Is this matter of a positive diagnosis so important in all cases that a risk should be taken? Would it not be better to trust to other signs in dubious cases, and is there any justification in subjecting, let us say, children with only enlarged glands or with adenoid growths, to such a test, until prolonged observation has shown that there is not even a remote chance of danger to life from its employment? Any actual curative effect of the injection, at least of the stronger tuberculin which is alone recommended for diagnostic use, is generally discredited at the present time, so the users have not that for their justification. We offer these as suggestions, but admit a preference for the conservative standpoint of Dr. Knopf." (*Journ. Amer. Med. Assoc.*, Vol. XXXIII, p. 1367).

"A recent occurrence in an eastern state has been made a text for some anti serumtherapeutists. A veterinary surgeon, in using the tuberculin test on a calf, accidentally pricked himself and developed tuberculosis, which caused his death six months later. It is quite possible, as has been suggested, that he had already unconsciously contracted the disease and the involuntary inoculation only revealed it, but it is also possible that it awakened it into the excessive activity that produced the rapidly progressing disease. This

latter possibility, while it is practically denied by some authorities, is nevertheless one that deserves serious consideration, and the conservative position of Dr. Knopf on the subject of the tuberculin test in the human subject is, on the whole, the safest to follow. When a man has only latent tuberculosis—some old practically isolated focus—and is in apparent normal health, it may be well that there is no advantage in stirring it up, if by so doing any risk is taken. He is not, in that condition, a public danger and may never be—his ignorance is bliss to him and it is folly to make him wise. There are other diagnostic methods that meet all needed requirements and are beyond the suspicion of any danger to the individual, though less rapid and more laborious for the diagnostician. The suggestion, credited to a distinguished New York authority, that the individual resistance in this case was probably already unconsciously weakened, does not materially affect the case; if a diagnostic method can produce such effects on a weakened system, it had better not be used. The case, if correctly reported, furnishes a strong argument against any general application of the tuberculin test for diagnostic purposes on human subjects. It is well enough for cattle, but while generally harmless in man, there are at least one or two other cases on record of troublesome results from its use.” (*Journ. Amer. Med. Assoc.*, Vol. XXXIV, p. 1567).

Further experimental evidence regarding the value of Tuberculin as a test for tuberculosis has been accumulated by the Technical Instruction Committee of the Cheshire County (England) Council. Their object was to form a decision for themselves upon the following points:

“1. To test the reliability or otherwise of tuberculin as a means of diagnosis for tuberculosis in cattle. 2. To see in what percentage the milk of those reacting contained tubercle bacilli. 3. To estimate the direct loss that would be incurred by a farmer in clearing his herd of all infected animals. 4. To see if the appearance and manipulation of the udder could be relied upon as indicating the presence of tuberculous milk. 5. To observe the effect of regular and systematic injections of tuberculin particularly in regard to the future reactions and as to whether any curative property was shown; also as to whether the injection of tuberculin would propagate the disease in animals not already tuberculous. The testing was done by Mr. Laithwood, F.R.C.V.S., chief veterinary inspector to the county of Cheshire, the post-mortem examinations

being made by the same gentleman assisted by Mr. King, chief veterinary inspector to the corporation of Manchester, and Mr. Storrar, veterinary inspector to the city of Chester. Professor Delépine of Owens College undertook the microscopical examination and analyses of the milk of all reacting animals and of portions of the carcase where doubt existed. Two herds, one at the Dairy Institute, Worleston, consisting of 52 cows and two pedigree shorthorn bulls, and the other at the Agricultural School, Holmes Chapel, consisting of 16 cows and one pedigree shorthorn bull (two years and nine months old), were tested. The tuberculin was prepared by Prof. McFadyean of the Royal Veterinary College. As the result 50 animals were declared free from tuberculosis, 17 were declared infected, and four doubtful. The udders of those that reacted were carefully examined, only one being found indurated; examinations of the milk of these were made by Professor Delépine and tubercle bacilli were detected in one instance only. Two out of the three bulls were found to be tuberculous, the oldest one being badly affected. Ten of the animals were slaughtered the result in every case verifying the conclusions drawn from the reaction. Nine cows were isolated and submitted to repeated injections of tuberculin at certain intervals, the cattle being afterwards slaughtered and examined. With reference to these the conclusion arrived at was 'that continuous injections of tuberculin at short periods of time will cause reaction to cease in an animal that has previously been shown to be tuberculous.' It was pointed out that on this account tuberculin might be put to dishonest uses and that therefore stringent restrictions ought to be placed upon its sale, only duly accredited persons being allowed to purchase it. As regards the 'curative' property of tuberculin it was considered that none of the experiments gave encouraging evidence. Although the experiments traversed ground which is now fairly well trodden they are of great value in confirming what has already been done to prove the diagnostic reliability of tuberculin and in bringing the position of modern knowledge under the eyes of the Cheshire agricultural community." (London *Lancet*, Vol. I for 1900, p. 400).

At the symposium on Serumtherapy before the New York County Medical Association on February 19th last, Dr. E. A. DeSchweinitz of Washington, D. C., contributed an article on "Tuberculins and Their Use." He concludes as follows:

"It seems to me, therefore, that the results obtained with the old

tuberculin and T. R., and a careful study of the poisons of the tuberculosis germ, indicate that in incipient stages, the disease may perhaps be arrested and immunity secured by injecting the products of the bacilli freed from the necrotic principle, or by treating the patient with a serum which will neutralize the necrotic poison and a subsequent use of the products of the bacilli free from the necrotizing agent. A solution of these poisons free from the necrotic principle may be obtained from *attenuated cultures*.

In any method of treatment it must always be remembered that we can at present hope to neutralize only certain of the poisons of tuberculosis germs, and that the natural immunity and resistance of the animal cell must be relied on for assistance. Therefore the best of nutrition in addition to scientific medication is absolutely necessary." (*Journ. Amer. Med. Assoc.*, Vol. XXXIV, p. 898).

Dr. B. Fränkel of Berlin, Germany, has written an article on "Tuberculin and the Early Diagnosis of Tuberculosis." He speaks of its great value in cases of suspected tuberculosis. (*Berlin. klin. Wochens.*, Vol. XXXVII, p. 255).

Dr. Charles Denison, of Denver, Colo., writes on "The Tuberculin Test, and the Need of a More Complete Diagnosis of Tuberculosis." (*Journ. Amer. Med. Assoc.*, Vol. XXXIV, p. 20).

Dr. T. McCall Anderson of Glasgow, Scotland, delivered "An Address on the Value of Tuberculin in Diagnosis and Treatment" before the Medical Graduates' College and Polyclinic on Feb. 9th last in which he related the details of five of his cases. (*London Lancet*, Vol. I for 1900, p. 1703).

Dr. J. M. Anders of Philadelphia, Pa., writes on "The Value of the Tuberculin Test in the Diagnosis of Pulmonary Tuberculosis." (*N. Y. Med. Journ.*, Vol. LXXI, p. 994).

Dr. Veranus A. Moore of Ithaca, N. Y., has contributed an article on "The Preparation of Tuberculin, its Value as a Diagnostic Agent, and Remarks on the Human and Bovine Tubercle Bacilli." (*Albany Med. Annals*, Vol. XXI, p. 321).

In the service of Dr. W. Murrell at Westminster Hospital (London) a limited experience has been obtained with the use of "Tuberculin R" in the treatment of pulmonary tuberculosis. He reports as follows:

"It is even more important to publish unsuccessful cases than to record those in which improvement has resulted, and especially is

this so in connexion with new methods of treatment. Ten years have elapsed since the introduction of Koch's tuberculin, and yet it has not attained to a recognised position in the therapeutics of pulmonary phthisis. It appears to be of very little use in mixed infections or in advanced cases, and the striking beneficial results detailed by Professor McCall Anderson in his lecture are certainly exceptional. Professor Anderson gives his patients large doses of cod-liver oil (three ounces a day), and this may account in part for the difference. The reaction produced by Koch's original tuberculin was certainly of some diagnostic value, but with the new tuberculin there is very slight reaction and therefore its use in diagnosis is less."

He goes on to relate the details of three cases, and draws the following conclusions:

"My experience of the treatment of phthisis with tuberculin R has been so limited compared with that of Professor McCall Anderson that it is with some hesitation that I venture to call attention to these cases. My experience would probably have been larger had the results been more favorable. It may be that if cases were carefully selected and only patients in a very early stage treated by this method better results would be secured. Possibly, too, the number of injections was too small, for I believe that in a successful case published by Professor McCall Anderson 47 injections were given in four months. The maximum dose of the new tuberculin is said to be 20 milligrammes, but that is a very large quantity and I have not ventured beyond five milligrammes. The irritation produced at the seat of infection is often a source of trouble and inconvenience to the patient. The expense is a serious consideration and in hospital practice a physician hesitates to recommend his house committee to sanction the employment of a remedy which runs up to 17s. a dose. I endeavoured to get it made in England on more reasonable terms, but was told that although the formula was published the exact details were not known. I have no wish to speak unfavourably of tuberculin R and my limited experience would not justify me in doing so, but I am positive that in these particular cases I could have obtained far better results with the formic aldehyde treatment, the details of which I have already published." (London *Lancet*, Vol. II for 1900, p. 105).

Professors Combemale and Mouton of Lille, France, in writing on "Artificial Serum as a Means of Early Diagnosis of Pulmonary

Tuberculosis", stated that they have entirely abandoned the use of Tuberculin as a diagnostic agent. They make use of a saline solution made according to the following formula:

Sodium Chloride 7 grammes (108 grains)
 Sodium Phosphate. 1 " (15.4 ")
 Sterilized Distilled Water . . 1 litre (about 33 fluidounces)

20 Cc. (324.6 minims) of this solution are injected into the flank and the temperature in the axilla is observed every hour. (*Gaz. hebdom. de Méd. et de Chirurg.*, Vol. 47, p. 75).

Dr. P. G. Unna of Hamburg, Germany, recommends local applications of Tuberculin in the treatment of lupus vulgaris. He applies it in the form of soap containing from 5 to 20 per cent. of Tuberculin, and makes use of this application as introductory to further treatment. (*Sem. Méd.*, Vol. 19, p. 344).

Urosin (a combination of Lithium and Quinic Acid—the chief organic acid of Cinchona Bark) has not been commented upon directly in the current medical literature of the past year.

Urotropin (Hexa-Methylene-Tetramin)—formed by the union of Formaldehyde and Ammonia—continues to be a very prominent article before the profession.

At a meeting of the Leeds and West Riding (England) Medico-Chirurgical Society on March 2d last, Mr. P. J. Cammidge described in detail a number of bacteriological and chemical experiments carried on for the purpose of determining the manner of the excretion of Urotropin by the urine, and the cause of its antiseptic properties. (*Brit. Med. Journ.*, Vol. I for 1900, p. 641).

Dr. H. E. Drake-Brockman of the British Indian Medical Service contributes some "Remarks on the Value of Urotropin and its Practical Application as a Urinary Antiseptic." He states:

"In conclusion, I feel sure that there is a very wide field of usefulness in the future for the employment of urotropin. It has hardly, I think, received sufficient notice hitherto from the profession in England, but I am confident that its claims will be readily taken into account when it comes to be more generally known. In the hope of such a result I am glad to be able to add my testimony to its worth as a valuable therapeutic agent for combating a troublesome class of cases." (*London Lancet*, Vol. I for 1900, p. 1876).

Dr. J. M. Thompson of Boston, Mass., writes on "The Value of

Urotropin in the Treatment of Certain Forms of Genito-Urinary Disease." He summarizes his experience and observations in brief as follows:

"(1) A urinary sterilizer, antiseptic and acidifier—prompt and reliable in action,—moderate in dose, which, if adhered to, renders it both non-toxic and non-irritating to all parts of the animal economy.

(2) In virtue for its particular affinity for the urine, into which it passes unchanged, and where it parts with formaldehyde, it is apparent that its action in genito-urinary lesions is likely to be complete and certain.

(3) Its decisive and lasting effect, and especially its comparative singleness of action—which last is a most desirable property—should give it a place in the list of medicinal specifics.

(4) From the observations reported thus far, urotropin has appeared to be most frequently indicated in chronic disease, where it has produced exceptionally good results.

(5) In the writer's personal experience the diuretic action of the drug was not marked enough to render it deserving of claim to such a virtue." (*Boston Med. and Surg. Journ.*, Vol. CXLI, p. 492).

At the Congress of American Physicians and Surgeons held in Washington, D. C., in May last, Dr. Edward L. Keyes, Jr., of New York City related his experience with Urotropin based on five cases. He introduced his remarks with the following accepted axioms:

"1. The effects of urotropin are almost entirely confined to the urinary passages.

2. These effects are due, in part at least, to the liberation of formaldehyd in the urine, and

3. These effects are, heightened acidity, marked antiseptic properties, and variable irritation of the neck of the bladder."

.....
After relating his cases, he closed as follows:

"To sum up the conclusions suggested by this modest array of cases, it may be advanced as a basis from which to discuss the virtues of the drug that:

1. Urotropin seems to be almost a specific in the treatment of some cases of acute catarrhal pyelitis, uncomplicated.

2. To prove effective it may have to be administered in high doses until the urine is practically clear of bacteria, after which a smaller dose may suffice.

3. In judging the effects of the drug, the centrifuge and microscope should be employed.

4. The dose must not be sufficient to cause pollakiuria and dysuria by irritation of the neck of the bladder.

5. The possibility of such an irritation cannot be overlooked, even when very small doses are employed.

6. Urotropin is extremely serviceable as a prophylactic of the various forms of urinary septicemia and urethral chill.

7. Its routine employment both before and after operations on the urinary passages is indicated.

8. The urine containing urotropin occasionally has an escharotic effect on wounds, which may constitute a contraindication to its employment." (*Phila. Med. Journ.*, Vol. 6, p. 606).

Dr. A. Nicolaïer of Göttingen, Prussia, has continued his experiments clinically with this agent. He made use of animals in establishing the methods of determining the presence of this agent. (*Zeitsch. für klin. Medicin*, Vol. 38, p. 350).

Dr. Gerald Dalton of London, England, publishes the results of his use of this agent in five cases of posterior urethritis, after having failed with other agents. (*The Therapist*, Vol. IX, p. 259).

Ursal (the combination of urea with salicylic acid)—recommended last year in the treatment of gout and rheumatism—has not been heard of in the current medical literature of the past year.

Validol (Menthol Valerianate) was simply alluded to here last year both under the head of Menthol and under its own head.

Dr. Ant. Giuseppe Cipriani of Berlin, Germany, reports his experience in the use of this agent to correct the anorexia and vomiting accompanying pulmonary tuberculosis. The thirty per cent. of pure Menthol in the combination seems to act most favorably as a stomachic and carminative. His dose varied from 15 to 20 drops given on sugar, and he carried on his experiments upon himself and family. He met with considerable success in doses of even 10 drops given three times a day after meals. It also appeared to relieve the cough and expectoration noticeable in so many cases. (*Allgemeine Med. Central-Zeitung*, Vol. 68, p. 899).

Dr. M. Vertun of Berlin, Germany, lends his confirmation of Dr. Cipriani's results when he reports "On 'Validol,' a New Menthol Preparation." He speaks of the peculiar odor noticed in the urine after its administration. It had the odor much resembling brierwood. (*Berlin. klin. Wochensch.*, Vol. XXXVI, p. 727).

Weights and Measures by the **Metric System** seem to be no nearer general adoption, as far as visible progress goes, than when this Government definitely authorized the use of such. There are often, of course, influences necessarily hidden or unnoticed by the general public which go largely to further particular objects which may have great weight. This is apparently the case in relation to the introduction of the Metric System. One indication at least of this is seen in the somewhat frank support given by the United States Treasury recently, and is due not only to the extended colonial interests but to the Exposition at Paris. In the report of the Treasury, the following occurs:

"The intense commercial rivalry of nations warns us to leave nothing undone which might further our own interests, and there can be no doubt that the introduction of the metric system to which this country stands pledged since the meeting of the International American Conference in 1890, would greatly facilitate international commercial transactions. Without doubt, Great Britain and Russia would follow the initiative of this country in this matter, and thus what a few decades ago would have been considered an unattainable ideal—namely, a system of weights and measures common at least to all Western nations—would be reached."

It was hoped that the Bill presented at the last Session of Congress to definitely secure the adoption of the Metric System in the United States would have been passed, and Secretary Gage appeared in behalf of the Bill before the House Committee on Coinage, Weights and Measures, but evidently the press of other matters side-tracked it. It provided for the use of this System after January, 1901 in all Departments of the Government except in the survey of public lands. It still further provided that on the following January (1902) the Metric System should be the legal standard of the United States.

Dr. J. M. Rubinow of New York City wrote to the Editor of *The Philadelphia Medical Journal* (Vol. 5, p. 367) as follows:

"Having read your editorial considering the introduction of the metric system into medical prescribing and being fully in sympathy with it (in fact using this system exclusively), I beg to offer a suggestion as to an eminently practical way of acquiring the metric habit. It may have been pointed out before, but has been "discovered" by me independently.

A two-ounce mixture is probably the most common prescription

and will surely be acceptable to all. Two ounces are 60.0 (approximately) in the metric system. A teaspoonful is the usual dose. We have 15 to 16 doses in a two-ounce mixture. One gram (10) is equal to 15 to 16 grains. It follows therefore that every gram of the drug in the mixture will stand for one grain in the dose. As for instance:

℞.—Ammon. chlor.	2.0
Tinct. op. camph.	4.0
Sirupa senagæ.	6.0
Sirupa ipecac.	6.0
Aqua q. s.	60.0

Mix. One teaspoonful t. i. d.

This will give 2 gr. of ammon. chlor., 4 gr. tinc. op. camp., etc., etc., per dose. Remembering this simple rule any physician, even if totally unacquainted with the metric system will be able to use it, and to get used to it. Putting 60.0 or ad 60.0 next to aqua he prescribes as many grams, as many grains he wants to give in a single dose. In fact if a practitioner has all his therapeutic ideas formed on the old basis, this will be the easier way still, as it does away with all calculations and at a glance indicates the doses prescribed. After a while he can try a four-ounce prescription, doubling the number of grams, and a one-ounce one, dividing them in halves. Even the one-ounce prescription will remain the most useful and simple one.

I hope this simple suggestion will prove of value to the younger colleagues, who are still open to argument."

This note called out the following confirmation from Dr. Henry Barton Jacobs of Baltimore, Md.:

"I was interested in reading Dr. Rubinow's letter in your issue of February 17 in regard to 'an eminently practical way of acquiring the metric habit,' and I wish to testify to its value in class-room work. Students almost invariably remember doses in the English system, and it is somewhat difficult to encourage them to adopt the metric system. The method of which Dr. Rubinow speaks (first suggested by Dr. Eli H. Long, in the *Medical News*, of Philadelphia, March 25, 1893, in an article on 'Aids to the Adoption of the Metric System in Prescription Writing,' and incorporated as a rule in Mann's little Handbook of Prescription Writing), makes it so simple for them to utilize their doses in the old system, and at the same time write in the metric system, that it appeals to them at

once. Unfortunately, not all our students continue to use the metric system after leaving the school; this probably is explained by the fact that the older practitioners, with whom they become associated, both in the hospitals and outside, are in the habit of using the old method; but I am encouraged to persist in teaching the French method, because I find that a certain small but increasing percentage of students are appreciative of its value, and desirous of employing in their use of drugs the same weights and measures they have become accustomed to use in their chemical and physiological work. In illustration of the absurdity of depending upon two systems, I often quote the nurse who recorded on the same sheet and in adjacent lines that the patient took 4 oz. of beef tea, and passed 100 cc. of urine. But after all, the effort to secure the general adoption of the metric system is uphill work, yet I feel sure it will come eventually if those who teach materia medica and therapeutics will stand together and untiringly persist in the good cause." (*Phila. Med. Journ.*, Vol. 5, p. 547).

The English will undoubtedly be the last in the line of progress. One writer now is appalled at the cost of replacing measures and how many workmen and others will have to be instructed, and concludes that the ultimate benefits of the change proposed would be of little value when considering the loss during the transition.

In a report recently issued by the British Board of Trade, it is stated that for the purpose of explaining the principles of the Metric system in schools, the Department has issued orders for the preparation of a set of educational models and is pushing forward its investigations in the line of ascertaining how far this System might be officially adopted in contracts. This surely is the proper mode of proceeding and will ultimately result favorably.

The Canadian Government appear to be quite ready to adopt the System when England and the United States point the way. The Canadian Manufacturers' Association has taken up the subject with energy, and have drawn forth a reply from the Minister of Inland Revenue, the Hon. Sir Henri Joly de Lotbiniere, as follows:

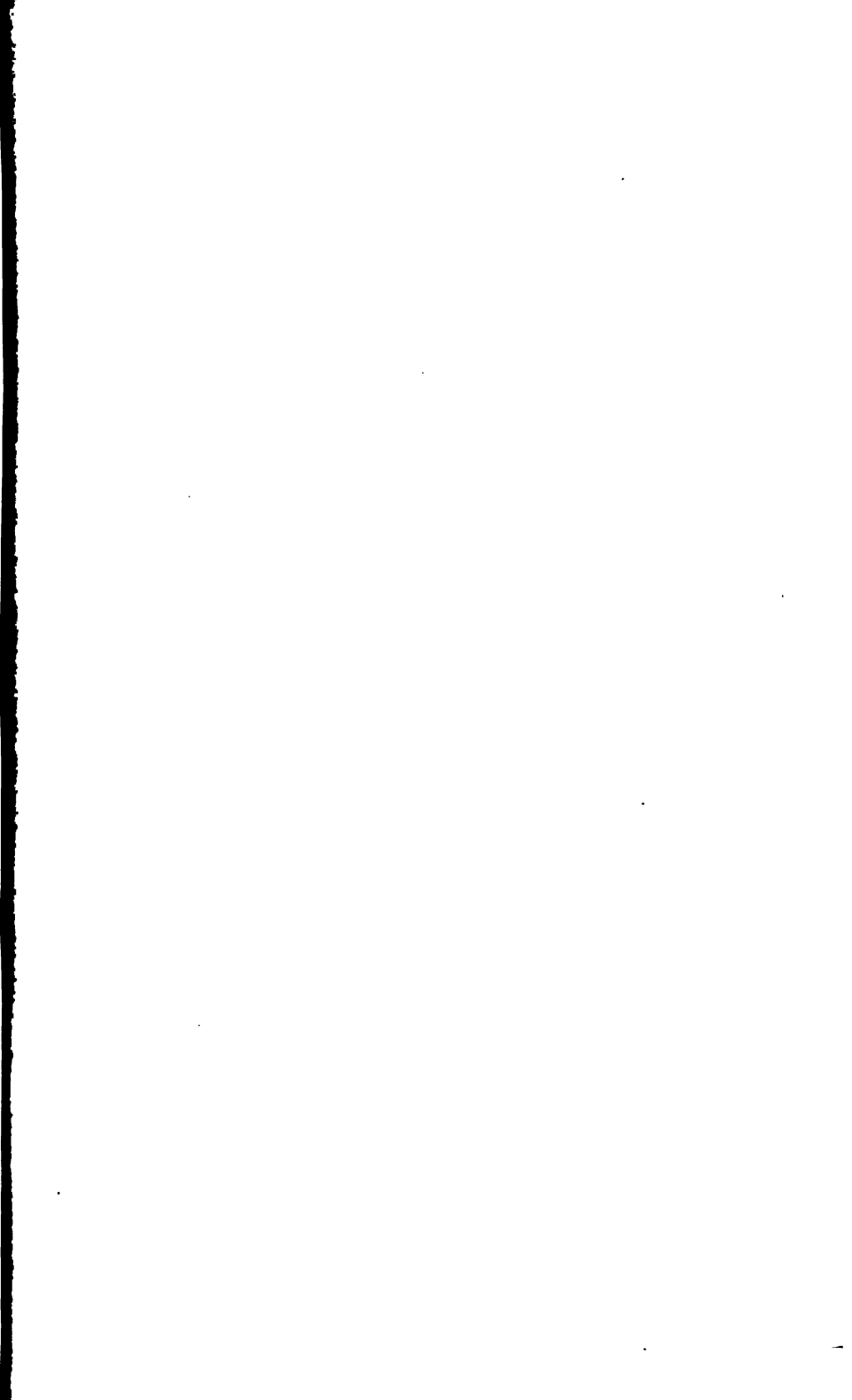
"I duly received your letter dated the 10th instant, enclosing the report of the sub-committee of the Executive Committee of the Canadian Manufacturers' Association, to which was referred the question of the metric system of weights and measures, and I am very grateful for the trouble the association has taken to study the question so carefully.

I am pleased to find that your Committee duly appreciates the superior convenience of a decimal system of weights and measures. Your Committee alludes to the expense of changing the entire standard of weights and measures. There is no doubt that it will be considerable, especially for measures of bulk and capacity, for measuring liquids. As for solids, especially for grain, the habit is becoming more and more general of measuring by weight instead of bulk. As for measures of weight, for all beam scales, it will only require the effacing of the present figures and the substituting of new ones to meet the metric weights. It is well to remember that the difference in weight between a kilogram and two pounds is so slight that the old weights could be used with the addition of a lead plug and the stamping of the denomination by our inspectors; this might obviate the necessity of purchasing additional metric weights for such scales, which scales would not otherwise require to be remodelled.

But where your Committee mistakes completely the intention of the Government is in thinking that it is intended to make the adoption of the metric system compulsory in advance of the steps to that effect which will likely be taken before long by England and the United States. Our present intention is to make the system widely understood by teaching it in our schools and by submitting its details to the business community, so that when it has become practically adopted in the two countries with which we deal most largely, England and the United States, we shall be prepared to welcome it instead of having to adopt it under compulsion. I have done my best to make this clearly understood, and I hope there may be no further doubt on the subject." (*Canadian Pharm. Journ.*, Vol. XXXIII, p. 256).

Xeroform (Tri-Brom-Phenol Bismuth)—one of the substitutes for Iodoform—has received practically no attention in the current medical literature of the past year.

Xinol is a short name given to a new agent made up of 1 part of Zinc Acetate to 4 parts of Albumin Naphtho-Sulphonate. It is recommended in the treatment of gonorrhea given in an aqueous solution in the proportion of 1.5 grammes to 3.0 grammes (23.2 to 46.3 grains) to 1 litre (about 33 fluidounces). (*Nouveau Montpellier Méd.*, Vol. IX, p. 640). There have been no definite clinical reports noticed as yet.





AN
EPHEMERIS
OF
MATERIA MEDICA, PHARMACY,
THERAPEUTICS
AND
COLLATERAL INFORMATION.

JANUARY, 1902.

BRIEF COMMENTS ON THE MATERIA MEDICA, PHARMACY AND
THERAPEUTICS OF THE YEAR ENDING JULY 1, 1901.

(ALPHABETICALLY ARRANGED)

BY
E. H. SQUIBB, M. D.

BROOKLYN, N. Y.

1902.

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**Read by title at the Eighteenth Annual Meeting of The New York State
Medical Association on October 24, 1901.**

The medical profession is to be congratulated at this time that fewer new compounds have been offered with a claim for attention. Either there has been a lull in the enthusiasm previously shown among manufacturers to present something new or what has actually been produced has not been thought of sufficient value to lay any claim on the attention of the profession for investigation. One very prominent check which has acted very decidedly upon the representatives of such new products, is the very evident growing scepticism and apathy of the profession to the articles so offered. In a word, the profession has become rather weary of the continued approaches made to listen to the claims of the overwhelming number of products promising either to be reliable substitutes for a well-tried remedy or to be so-called "cures."

Acetanilid (Antifebrin) is little heard of now-a-days individually. It is generally found in composition either in the form of a prescription or in some proprietary article like the so-called "headache powders." Special names continue to be given to combinations with Acetanilid. Thus "Anilipyrin" is a new combination obtained by melting one part of Acetanilid with two parts of Antipyrin.

Poisoning cases are still being recorded resulting from internal use and now Dr. Jacob L. Manasses of Philadelphia, Pa. contributes a report on "Two Cases of Acetanilid Poisoning in Children from Absorption from External Wounds." He states "I report these cases because of their rarity, as I do not believe many cases are on record of acetanilid poisoning from absorption." (*Inter. Med. Magazine*, Vol. X, p. 278).

Acetopyrin is the name given to a somewhat recent combination of Antipyrin and Aspirin. It takes the form of a colorless crystalline powder, insoluble in cold water and ether but readily soluble in warm water, alcohol and chloroform. Its odor is that of acetic acid which would indicate a rather unstable product. It is recommended not only as an efficient antipyretic, but it is claimed that it has marked usefulness in acute rheumatism and neuralgia.

Drs. Josef Winterberg and Robert Braun of Vienna, Austria have written "On Acetopyrin, a new Antipyretic." In experimenting with it in some one hundred cases they prescribed it for several weeks in cases of chronic rheumatism in doses varying from 3 to 4½ grammes (46.3 to 69.4 grains). These doses are reported to have caused some pain or distress throughout the alimentary tract but showed no other disagreeable symptom. Given in cases of acute articular rheumatism they reported that the pain and swelling rapidly disappeared. They made use of it in other acute infectious diseases and reduced the temperature in such from two and a half to three degrees in doses of from 500 milligrammes to 1 gramme (7.7 to 15.4 grains). They recommend its administration either in wafers or suspended in simple syrup, beginning with an initial dose of 450 milligrammes (6.9 grains). They claim that they have given as much as 7 grammes (108 grains) without producing the characteristic ringing in the ears and profuse perspiration following the administration of the salicylates. (*Wein. klin. Wochensch.*, Vol. XIII, p. 873).

Acid Acetic has lost none of its importance in any line in which its use is applicable. A higher standard of quality is being exacted and the manufacturers in this country are pressed for a degree of purity which is very encouraging. An Acid of this higher grade is naturally more difficult to produce than the lower and cheaper grades, and as the demand increases it becomes more difficult to supply it. It is now reported that it is being made from the refuse material from the sauerkraut factories in Germany, and is being made so cheaply that the Germans can actually export it into this country and compete with the American product.

As a menstruum for the exhaustion of drugs it has not only not lost any of its prominence but has grown in favor. This line of application is rapidly becoming more widely considered and of increasing interest, and one argument after another against its more general adoption is being either refuted or answered sufficiently satisfactorily to rather invite further investigation than to drop its consideration. One of the most recent arguments against the adoption of Acetic Acid as a menstruum for fluid extracts, is that its introduction might tend to increase the danger of incompatibilities in prescription writing. If careful attention is given to this question it will surely be considered of no weight, for as a matter of fact there never was a time and there probably never will be a time when entire freedom from this source of danger will exist, but surely the introduction of Acetic Acid Fluid Extracts will not be likely to increase that trouble. Apparently little consideration seems to be given to the fact that there is already in the present Pharmacopœia no less than nine Extracts and Fluid Extracts that contain Acetic Acid, and among these two of the most important Fluid Extracts in the whole range of the Pharmacopœia—Ergot and Nux Vomica. The introduction of Acetic Acid into these preparations has not apparently increased the trouble in that direction, but on the other hand has been the means of giving us two reliable Extracts—in the case of Ergot because of its preservative property; in the case of Nux Vomica because of its solvent power.

It may be of interest to those who are attempting to follow up this subject to glance again at the table of drugs which have been already successfully exhausted with 10 per cent. Acetic Acid. Last year two tables were presented, one giving the drugs first tried and the second those subsequently tried. The following table

will be composed of a union of these two tables alphabetically arranged. The comment to be made on these samples which have been allowed to stand for another year is as follows: Little change has taken place in the general appearance of these Acetic Fluid Extracts since the report made here last year, for those marked "turbid" still remain in the same condition without any apparent increase. All the Fluid Extracts however have grown more mellow with age and the odor of the Acid is less noticeable, but on the other hand the characteristic odor of each drug is still prominent and in the majority of cases quite pronounced. There is no evidence of the presence of Acetic Ether as far as the sense of smell can guide one, but no chemical examination has been made in that direction.

Drug.	Liquid Portion, Per cent.	Deposit, Per cent.	Condition.
Aconite Root	99	1	Clear
Allspice	98	2	"
Arnica Root	99	1	Turbid
Aromatic Powder	95	5	"
Belladonna Leaf	95	5	Clear
" Root	98	2	"
Bittersweet	98	2	"
Black Pepper	95	5	"
Buchu	99	1	"
" and Potassium Acetate	99	1	"
Buckthorn	99	1	"
Burdock	99	1	"
Calumba	95	5	Turbid
Cannabis Indica	99	1	Clear
Capsicum	98	2	"
Cardamom	99	1	"
Cascara Sagrada	99	1	"
" " Aromatic	97	3	"
Cassia, Saigon	98	2	"
Celery	99	1	"
Cimicifuga	99	1	"
Cinchona, Red Compound	98	2	"
" " 	98	2	"
" Yellow	98	2	"
Cinnamon, Ceylon	25	75	{Tendency to Gelatinize
Cloves	98	2	
Coca	97	3	"

Drug.	Liquid Portion, Per cent.	Deposit, Per cent.	Condition.
Colchicum Seed	99	1	Clear
Convallaria.....	98	2	"
Coriander	99	1	"
Cotton Root.....	97	3	"
Cypripedium	99	1	"
Dandelion	99	1	"
Digitalis.....	95	5	"
Ergot	99	1	"
Eucalyptus	98	2	"
Garlic	92	8	"
Gelsemium	99	1	"
Gentian	95	5	"
" Compound	95	5	"
Ginger, Jamaica.....	95	5	"
Hydrangea	98	2	"
Hydrastis	98	2	"
Hyoscyamus.....	95	5	"
Ipecac.....	92	8	"
Juniper	92	8	"
Larkspur, Delphinium.....	99	1	"
Leptandra	99	1	"
Lobelia.....	99	1	"
Mace.....	98	2	Turbid
Malt.....	99	1	Clear
Marjoram.....	99	1	"
Nutmeg	99	1	"
Nux Vomica.....	99	1	"
Pareira	97	3	"
Pilocarpus	97	3	"
Pleurisy Root	98	2	"
Prickly Ash	99	1	"
Quassia.....	97	3	"
Rhatany.....	98	2	"
Rhubarb.....	98	2	"
Sanguinaria	99	1	"
Sarsaparilla.....	97	3	"
" Compound	97	3	"
Scolloap	95	5	"
Senega	88	12	{ Turbid and { Gelatinizing
Senna	95	5	Clear
" Compound	98	2	"
Serpentaria.....	98	2	"
Spigelia	99	1	"

Drug.	Liquid Portion, Per cent.	Deposit, Per cent.	Condition.
Spigelia and Senna	98	2	Clear
Squill	98	2	"
Stillingia	95	5	"
Stramonium Seed	95	5	Turbid
Tarragon	98	2	Clear
Thyme	99	1	"
Tobacco	98	2	"
Uva Ursi	97	3	"
Valerian	98	2	"
Veratrum Viride	95	5	"
Wild Cherry	95	5	Turbid
Yellow Dock	99	1	Clear

From the evidence furnished by the above samples which have been standing in some cases two years, it can be very confidently stated that such Acetic Fluid Extracts after standing from three months to one year—say take the extreme of one year—will not precipitate any more than would the alcoholic preparation of the same drug, and it may not be too early to state will precipitate less than the latter.

During the past year five new Fluid Extracts have been added to the above list of those made with 10 per cent. Acetic Acid. They are given below showing their present condition. These latter will also be kept for at least a year and a like report made upon them at that time:

Drug.	Liquid Portion, Per cent.	Deposit, Per cent.	Condition.
Cinchona, Yellow Compound	98	2	Clear
Conium	98	2	Turbid
Hops	98	2	Clear
Phytolacca	98	2	"
Triticum	98	2	"

The complete list now numbers eighty-seven, of which seventy-one are made with 10 per cent. Acetic Acid.

Experiments have been continued with a number of other drugs that have heretofore failed to respond favorably to treatment with

a 10 per cent. strength, and various other strengths have been tried until now it is found that the higher strengths of acid—from 60 to 95 per cent.—will readily and completely exhaust the following group of five: *Cannabis Indica*, *Cubeb*, *Jalap*, *Male Fern* and *Podophyllum*. Then the oleoresins, resins and solid extracts may be economically prepared from all these drugs so exhausted with the minimum amount of alcohol or ether as the case may be, according to the directions of the U. S. Pharmacopœia. It will at once be realized by those who have worked on a large scale with the exhaustion of drugs how much of a saving in alcohol alone this will accomplish, for whereas the alcohol or ether is officinally prescribed as a solvent to take up oleoresins and resins, for instance, the whole exhaustion can be accomplished with Acetic Acid first.

It will be quite pertinent to repeat here the long-known fact which has been abundantly confirmed by more recent experience, that the presence of a small proportion of Acetic Acid increases very much the solvent power of alcohol as a menstruum in exhausting medicinal drugs. As a result of this property, many of the Acetic Fluid Extracts can confidently be diluted or reduced down to the strength of tinctures with a 10 per cent. alcohol. When so diluted they may be either mixed with water without further precipitation, or if this alcohol be considered objectionable, the Acetic Fluid Extract may be diluted with a 6 per cent. Acetic Acid. This 6 per cent. of Acetic Acid, or the 10 per cent. of alcohol, as the case may be, will be not only found quite sufficient to preserve them but will reduce the cost, and what is of much more importance, diminish the objectionable amount (therapeutically) of alcohol these preparations usually contain.

Many of these Acetic Fluid Extracts have been diluted in this way, some with little or no precipitation—such as *Nux Vomica*, *Aconite*, *Digitalis*, etc.—while only a few others—such as *Cinchona*, *Belladonna* and *Hydrastis*—precipitate to any considerable extent, and these precipitates, so far as the alkaloidal extracts are concerned, may be disregarded. Thus it may be justifiable, on economic grounds even, to throw all these residues away (with or without washing), being satisfied with 90 or 95 per cent. of the measures we may be entitled to.

To illustrate the plan of dilution, a number of these Tinctures have been prepared, using 1 Cc. of the Acetic Fluid Extract for each 1 Gramme of the drug and diluting to the required strength

with either 10 per cent. of alcohol or 6 per cent. of Acetic Acid, as previously mentioned. As an example the formulas for Compound Tincture of Cinchona prepared in each way may be given as follows:

Acetic Fluid Extract of Cinchona Compound.	200	Cc.
Alcohol (91 per cent.)	110	"
Water.	690	"
	<hr/>	
	1000	"

Mix the Alcohol and Water, add the Compound Fluid Extract, shake well, let stand for 24 hours and finally decant or filter. This finished Tincture now contains:

Mixed alkaloids.	0.5	per cent.
Alcohol.	10.0	" "
Acetic Acid.	1.6	" "
Water.	87.9	" "
	<hr/>	
	100.0	" "

Now for the Acetic Tincture:

Acetic Fluid Extract Cinchona Compound...	200	Cc.
Diluted Acetic Acid.	800	"
	<hr/>	
	1000	"

This finished Tincture contains:

Mixed alkaloids.	0.5	per cent.
Acetic Acid.	6.0	" "
Water.	93.5	" "
	<hr/>	
	100.0	" "

Both the alcoholic and acetic tinctures thus prepared mix with water in all proportions without precipitation—a most desirable result—and it is confidently believed from a two years' observation, that the proportions of alcohol or Acetic Acid used in the formulas here given will prove quite sufficient to preserve them.

Acid Cacodylic (Di-Methyl Arsenine [Cacodyl] Hydrate)

—the new organic arsenical compound containing the equivalent of 71.4 per cent. of arsenic oxide (known as arsenous acid) alluded to here last year, has received quite remarkable attention during the past year.

Dr. Armand Gautier of Paris, France still continues to be enthusiastic over its usefulness. He contributed quite a lengthy communication to the Paris Academy of Medicine at its meeting on July 2nd last on "Medication by *latent arsenic*", in which he expands on its varied use in quite a series of affections, but particularly tuberculous affections. One might reasonably infer that wherever arsenic was rationally indicated this new form would be found useful. He cited one striking and interesting result which followed its use, in that a marked increase of the growth of hair was noted. A woman treated with the Cacodylates showed an increased growth of hair, and the menstrual flow became more abundant. (*Bull. de l'Acad. de Méd.*, Vol. XLVI, pages 20 and 64.).

Dr. Rocaz of Bordeaux, France has employed Sodium Cacodylate in over eighty cases in his pediatric practice. Apparently he has been able to follow sixty of his cases up to the close of treatment. He is convinced that children bear it well when given twice a day in a watery solution with their meals. He prescribes as a maximum daily dose the following: 0.03 to 0.04 gramme ($\frac{1}{2}$ to $\frac{3}{8}$ of a grain) to children from 10 to 15 years of age; 0.02 to 0.03 gramme ($\frac{1}{4}$ to $\frac{1}{2}$ of a grain) to children from 6 to 10 years of age; 0.01 gramme ($\frac{1}{8}$ of a grain) to children from 3 to 4 years of age and proportionately smaller doses to younger children. He emphasizes the fact that it is very important to examine the kidneys before beginning treatment and watch how they behave. He recommends a suspension of the article occasionally in order to avoid cumulative action. (*La Sem. Méd.*, Vol. 20, p. 382).

Drs. Carlo Giajmis and Guglielmo Bazzicalupo of Naples, Italy have carried on some experiments with Sodium Cacodylate upon animals susceptible of tuberculous infection, and conclude that it acts in the same manner as all other arsenical preparations and can be tolerated because effective only when given in doses of fractions of a milligramme. They find it has very decided cumulative effects, and has little specific and no true beneficial effect on the course of experimental tuberculosis in guinea pigs. (*Gaz. degli Osped. e delle Cliniche*, Vol. XXI, p. 1252).

Dr. M. A. Latarjet of Lyons, France has experimented with the Sodium Cacodylate in various affections. He has given it in pill form by the mouth, by injection through the rectum and hypodermically, and finds the last method the best. His conclusion is that he would recommend it simply as an adjuvant to general hygienic treatment. (*Lyon Médical*, Vol. XCIV, p. 370).

Dr. Petrini of Galatz, Roumania reported at a meeting of the Paris Academy of Medicine the case of a patient forty years old having been treated successfully by him with Sodium Cacodylate as a last resort for a diffuse sarcomatosis beginning in the pharynx. He used in all seventy injections with a maximum dose of 130 milligrammes (2 grains) daily. (*Bull. de l'Acad. de Méd.*, Vol. XLIV, p. 203).

Dr. P. E. Lannois of Lyons, France reports on "Some Cases of Chorea Treated by Sodium Cacodylate." He reported three cases of Sydenham's chorea. He used the agent subcutaneously in doses varying from 0.02 to 0.04 of a gramme ($\frac{1}{25}$ to $\frac{1}{12}$ of a grain) daily. He advises continuing the administration for five days when an interval of four to five days is taken. A three weeks' course of treatment was evidently sufficient at least to cure one case of a fifteen year old girl of her intense chorea. In one case of long-standing chorea with hysteria, marked relief was obtained after eight injections. In all his cases, he reports that the ordinary treatment had previously been attempted without benefit. He advises a more extended trial. (*Lyon Médical*, Vol. XCVI, p. 117).

Mr. Edward Martin Payne of Cricklewood, London, N. W. England reports "Two Cases of Carcinoma Treated with Cacodylate of Soda." He introduces his article as follows: "The idea of treating cancer is not new. There was a story told of a German countess who, being stricken with the complaint, was so horrified that she determined to forestall a lingering and painful death by taking a large dose of arsenic which, however, instead of killing the countess, cured the cancer." He draws the following conclusion: "I have given the above notes for what they may be worth, for although I fear that I cannot claim that the results I have recorded are of a very decisive nature I am myself strongly inclined to the opinion that cacodylate of soda, even if it cannot claim to be a cure for the cancer, is at least a very valuable palliative. It certainly seems to arrest the progress of the disease and it improves the patient's general condition, and I am of opinion that it should at

least be tried in those cases where early operative methods are out of the question." (London *Lancet*, Vol. I for 1901, p. 1462).

Dr. Anelli of Bettola di Piacenza, Italy reports considerable success in the use of Sodium Cacodylate in the treatment of pulmonary tuberculosis by injection into the veins, particularly of the arm. He met with his success in a case which had advanced considerably. He injected under strict antiseptic precautions 50 milligrammes ($\frac{1}{4}$ of a grain) in 1 Cc. (16.2 minims) of water and obtained his favorable results in less than one month's time. He argues that if successful in this advanced case, it should be at least of equal value in an early case, and therefore by inference advises further use. (*La Riforma Med.*, Vol. III, p. 196).

Drs. A. Gilbert and P. Lereboullet of Paris, France recommend the use of Cacodylate of Iron in the treatment of anæmia, for the reason that they had met with so little success with the Sodium Salt in cases of chlorosis and anæmia in general. They claim that the ferric salt is much less toxic than the Sodium Salt and is very soluble. They therefore could employ it in solution containing 30 milligrammes ($\frac{1}{2}$ grain) in 1 Cc. (16.2 minims) of water daily, and used up to 100 milligrammes (1 $\frac{1}{2}$ grains). This Salt is obtained by the reaction between Ferric Sulphate and Barium Cacodylate. It contains 45 per cent. Ferric Oxide and an equivalent of 32 per cent. of Arsenous Oxide.

They also administered this agent internally in doses varying from 50 to 300 milligrammes ($\frac{1}{4}$ to 4 $\frac{1}{4}$ grains) daily. They were agreeably surprised to find that the kidney complications which are so frequent after injection of other iron salts were not developed, but on the other hand in five of their cases, affections of the kidney already present were much improved. (*Bull Gén. de Thérap.*, Vol. CXL, p. 469).

A Cacodylate of Mercury has been used experimentally on animals principally and good results are claimed from it, but few clinical reports have yet been published.

A combination of Cinnamic and Cacodylic Acids in molecular proportions has been prepared but no clinical reports are yet forthcoming.

The toxicity of this agent (particularly the Sodium Salt) has received very marked and emphatic consideration from some quarters, for the reason that its use has been recommended by advertisement in the daily press as a "harmless cure for all stages of con-

sumption." Some English practitioners have already uttered a note of warning not only to their fellow practitioners but to the pharmacists who dispense it.

Dr. William Murrell of Welbeck Street, London, W. England has thought it advisable to publish the following note:

"Professor Armand Gautier's treatment of phthisis has been so enthusiastically advocated in the columns of the daily press, and we have been so repeatedly assured that cacodylate of sodium, although it contains 55 per cent. of arsenious acid, is absolutely innocuous even in large doses, that many practitioners will feel inclined to give it a trial. I hope, however, if they do so they will exercise a more than ordinary amount of caution, and that instead of beginning with a dose of 3 or 4 grains they will be content to prescribe a very small fraction of that quantity. I have now under my care a young woman suffering from moderately advanced phthisis. I ordered her 1 gr. of the drug in a pill three times a day. The specimen was carefully selected, and was obtained from a well-known maker in Paris. After taking eleven pills she suddenly developed symptoms of arsenical poisoning. She suffered from constant nausea and vomiting, there was complete anorexia, the tongue was raw and irritated, the conjunctivæ were inflamed, the eyelids were oedematous, and there was considerable prostration. The breath had a gangrenous odour, there was tenderness on deep pressure along the course of the nerves, especially in the lower extremities, and she was unable to move the left leg or extend the left wrist. On suspending the treatment the acute symptoms subsided in twenty-four hours, but the loss of power in the leg and in the arm persisted for three days. There was no diarrhœa, and there was no albumen in the urine. The physical signs in the chest underwent no alteration. She had been under observation for some weeks before the treatment was commenced, and the neuritis was not due to any extraneous cause. It may be argued that she was peculiarly susceptible to the action of arsenic. On that point I have no evidence to offer, but if ever again I prescribe so lethal an agent as cacodylate of sodium, it will not be in the heroic doses recommended by French physicians." (*Brit. Med. Journ.*, Vol. II for 1900, p. 1823).

Dr. A. Kinsey-Morgan of Bournemouth, England writes the following note in relation to Dr. Murrell's case:

"It would be interesting to know the condition of the digestive powers of Dr. Murrell's case reported in the BRITISH MEDICAL

JOURNAL of December 22nd, 1900, for, personally, I find little or no difficulty in the administration of the cacodylic preparations, providing a fair amount of food can be assimilated, and that care be taken, as in the administration of the ordinary arsenical preparations, to commence with a small dose. To begin with, I should advise from $\frac{1}{4}$ gr. to $\frac{1}{2}$ gr. twice a day after food, interrupt at the end of a week and then renew its use; tolerance invariably becomes established in course of a short while, and the dosage may then be increased, but in no case continue the administration without a systematic interruption at the end of each week or ten days.

A very convenient and acceptable way of giving the cacodylate of sodium is in the form of liq. cacodylicus (Squire's)." (*Brit. Med. Journ.*, Vol. I for 1901, p. 55).

To this Dr. Murrell replies:

"I have much pleasure in replying to Dr. Kinsey-Morgan's inquiry respecting the digestive powers of the patient who suffered so severely from the administration of this substance. For a patient suffering from phthisis her general condition was exceptionally good, and her diet table included chop and potatoes, bread and butter, milk (2 pints), beef-tea (1 pint), plasmon, eggs, and 4 ounces of port wine, all of which she assimilated without difficulty. After taking the drug her requirements were of a much more modest description, as it was with difficulty that she retained tablespoonfuls of milk and brandy. I am well acquainted with the methods of administering arsenic both by the establishment of tolerance and by the massive doses advocated by Murray, of Newcastle-on-Tyne; in fact I have at the present time under my care a girl, aged 12, suffering from chorea, who during the last twenty-six days has taken over 10 grains of arsenic in the form of Fowler's solution, not only without the production of untoward symptoms but with considerable benefit. The symptoms resulting from the administration of cacodylate of sodium are far more severe than those which follow the exhibition of arsenic in its ordinary forms, and I see no reason for modifying my opinion that it is a drug which requires to be used with the utmost caution." (*Brit. Med. Journ.*, Vol. I for 1901, p. 120).

The price of this agent is still very high, as much as \$5.00 an ounce being asked, therefore its use will not become very universal for a while, but when calculating on an individual dose the cost does not seem so extravagant.

Acid Carbolio (Phenol) has come back somewhat into recognition as an agent for internal use and its efficiency has been so pronounced in the hands of Dr. S. Henry Dessau of New York City that he has written an article with the title "Carbolic Acid as an Internal Remedy." He claims that "the internal administration of carbolic acid in solution by way of the stomach is decidedly safer than in the form of enema, or as a local application, even when weak solutions are employed, for in the latter it is impossible to regulate the quantity that will be absorbed." He closes as follows: "Finally, it gives good, speedy and permanent results, even under the most unfavorable conditions, and it is a remedy, the value of which, owing to unjust and unsupported prejudices, has remained neglected for too long a time." (*Therapeutic Monthly*, Vol. I, p. 27).

Dr. Stanislaus von Stein of Moscow, Russia uses the following combination:

Carbolic Acid.....	9.0	grammes	(138.9 grains)
Salicylic " 	1.0	"	(15.4 ")
Lactic " 	2.0	"	(30.9 ")
Menthol.....	0.1	"	(1.54 ")

to which is given the name of "Phenosalyl." In laryngeal tuberculosis and some other affections of the ear, nose and throat he claims that it ranks next to bichloride of mercury as a bactericide. In sixteen cases of laryngeal tuberculosis he claims that the above combination is positively curative. By careful examination he found the bacilli were reduced in number in all cases except where there was pulmonary tuberculosis also present. (*Klinisch-Therap. Wochensch.*, Vol. VII, p. 1346).

Dr. W. E. Fisher of Philadelphia, Pa. reports "A Case of Anthrax Successfully Treated by Local Injections of Pure Carbolic Acid." (*Ther. Gaz.*, Vol. XXIV, p. 508).

Dr. Attilio Balduzzi, an Italian observer, reports his results after treating several cases of acute articular rheumatism by injecting 1 Cc. (16.2 minims) of a 3 per cent. solution of Carbolic Acid. He concludes from his results that there is a marked similarity as to etiology between this affection and erysipelas as they respond to the same treatment so effectively. (*Gaz. degli Osped. e delle Cliniche*, Vol. XXII, p. 505).

Dr. N. S. Fraser of St. Johns, Newfoundland writes a short note on the "Treatment of Erysipelas with Carbolic Acid", and relating states a case which responded in four days to his treatment showing no vestige of redness by that time. (*Brit. Med. Journ.*, Vol. I for 1901, p. 1142).

Dr. F. Zagato of Italy apparently has had the same favorable experience, for he reports on the same line of treatment by puncture of the joint and injection of Carbolic Acid. He had previously tried morphine injections and the salicylate treatment without success. (*La Sem. Méd.*, Vol. 21, p. 56).

Dr. A. M. Phelps of New York City has reported at some length on "The Treatment of Tuberculous and Purulent Joints with Large-Glass-Speculum Drainage and Pure Carbolic Acid, with a Report of Seventy Cases." He concludes as follows:

"When I compare these results with what I observed before I began the use of carbolic acid in the treatment of these joint suppurations, I am highly pleased. In certain hospitals, I am informed, the wards are filled with patients with suppurating hips, many of whom have been there for years. All such patients could be got up and out with hip splints and crutches in a few weeks at the most.

I am led, gentlemen, to speak thus positively because of the brilliant results and a desire to impress upon the orthopædic profession the principles which are accepted and taught in the surgical world. I believe that we, as orthopædic surgeons, have no right to violate established scientific surgical laws. I wish to say also that the carbolic acid is used simply as an agent. It is not a specific in joint disease. Thorough surgical work, with the auxiliary of carbolic acid, to my mind, will accomplish more in the cases under consideration than any other means with which I am familiar." (*N. Y. Med. Journ.*, Vol. LXXII, pages 366 and 441).

Dr. Jay F. Schamberg of Philadelphia, Pa. writes on "The Uses of Phenol in Dermatology" giving some valuable precautionary advise. (*Ther. Gaz.*, Vol. XXV, p. 365).

Dr. Eugene F. Hoyt of New York City writes a note to the Editor of the *Philadelphia Medical Journal* (Vol. 6, p. 723) on the "Treatment of Hemorrhoids by Injection of Carbolic Acid" in which he states that he slowly and sparingly injects into the hemorrhoids a 10 per cent. solution, "thereby neutralizing all nourishment of the tissue involved, so that this must promptly yield its hold

upon existence, restoring the hemorrhoidal dominion to its original condition."

There seems to be hardly any limit or restriction to the number of poisoning cases with this agent. Suggestions still come for various antidotes, and milk has been suggested as effective. Alcohol however seems to be the one most used and which gives the best satisfaction.

Dr. D. H. Galloway of Chicago, Ills. reports a case of "Strong Carbolic Acid Used by Mistake as a Throat Spray." The strong solution proved to be 95 per cent. and was used on a man suffering from severe tonsillitis and pharyngitis. Apparently the mistake was recognized very promptly and equal parts of alcohol and water were made use of in the form of a spray. This was followed by administering mucilaginous drinks. Recovery followed in about a week leaving no evidence of the tonsillitis. (*The Laryngoscope*, Vol. IX, p. 114).

Dr. Herman A. Klein of Chicago, Ills., having used alcohol in the treatment of Carbolic Acid poisoning and burns with most gratifying results, ventures to report his observations. He relates three cases to justify his procedure. (*Journ. Amer. Med. Assoc.*, Vol. XXXV, p. 1557).

Dr. H. E. Kendall of Sidney, Nova Scotia reports "A Case of Carbolic-Acid Poisoning, with a Question Concerning Asphyxia" in which a child under two years of age had taken an unknown quantity of pure Carbolic Acid about twenty minutes before the doctor's arrival. He found the child completely unconscious which he was told came on a very few minutes after the Acid was swallowed. The Doctor describes how he proceeded, and concludes as follows:

"(1) The child after swallowing carbolic acid was apparently dying very rapidly with symptoms that might reasonably be thought to be produced by the systemic effects of the poison.

(2) These symptoms were not the result of systemic influences; otherwise they would not have disappeared so quickly.

(3) The unconsciousness, dilated pupils, lividity, and heart failure were the result of asphyxia, and asphyxia was the result of the local action of the poison upon the structures about the tongue and epiglottis." (*N. Y. Med. Record*, Vol. 58, p. 794).

Acid Picric (Tri-Nitro-Phenol) continues to be used locally by the dermatologists, and of late reports come of useful

applications in the form of injections by the genito-urinary specialists.

Dr. H. DeBrun of Beyrout, Syria reports excellent results in cases of anterior urethritis.

Drs. Ch. Achard and A. Clerc—two French observers—report a case of general cutaneous eruption after the use of this Acid. When it was applied to a small burn on the face it produced a general vesicular eruption resembling that of scarlatina, and was accompanied with marked edema. (*Gaz. hebdom. de Med. et de Chirurg.*, Vol. V, p. 961).

Acoine (Di-Para-Isyl-Para-Phenetyl-Guanidin Hydrochlorate), the local anæsthetic alluded to here last year and which was then apparently gradually disappearing from notice, has been practically unheard of during the past year.

Agurin is the name given to a combination of Sodium Acetate and Sodium Theobromate, and was reported upon at a meeting of the Paris Therapeutical Society on June 12th last by Dr. Destrée of Brussels, Belgium in a communication entitled "Therapeutic Action of a New Diuretic." He claims that it is more powerful in its action than diuretin and finds it more easily tolerated by being less caustic. It has the marked advantage of producing favorable results in relatively small doses. It was given in daily doses varying from 250 to 500 milligrammes (3.85 to 7.7 grains). It apparently has a lasting effect in these doses. No other observer has yet reported on this new agent. (*Bull. Gén. de Thérap.*, Vol. CXLI, p. 913).

Äirol (Bismuth Oxy-Iodo-Gallate) has not received very much attention during the past year if the frequency of reports can be taken as an index. The ophthalmologists are still using it however in corneal ulcers and like affections.

Dr. Martin Friedlaender of Berlin, Germany has made good use of it in the form of a one-half to one per cent. irrigating solution in acute gonorrhea. He claims that it is more certain in its action than the agents he has previously used. (*Deut. Aerzt-Zeitung*, Vol. for 1900, p. 524).

Alsol is the name given to a combination of Aluminium with Acetic and Tartaric Acids, and is recommended as an efficient non-toxic astringent and antiseptic.

Dr. Ed. Hönigschmied of "Weistrach," has made use of it quite extensively in throat and nose affections, and finds that it is su-

perior to potassium chlorate as a gargle. He makes use of the following formula:

Solution of Alumin. Acetate..	10.0	grammes (154.3 grains)
Lanolin	45.0	" (694.5 ")
Vaselin	45.0	" (694.5 ")

In cases of croup and diphtheria a gargle of a 1 per cent. solution is used and the parts are painted frequently with a 5 per cent. solution. He recommends that a 50 per cent. solution should be made up and kept on hand for dilution, for the reason that although completely soluble it takes some little time to dissolve. (*Therap. Monats.*, Vol. XIV, p. 559).

No other prominent observer has yet made any definite report upon this agent.

Alumen Exsiccatum (Dried Alum) has long been known as a most powerful and effective astringent, with marked irritant properties when used in excess. By the process of drying, the water present in the crude Alum is driven off and thereby a marked affinity for water is produced in the exsiccated product. This latter property thus established renders it a most useful and effective powder in all forms of sores and abrasions of the skin or open wounds where the deep parts are exposed. To reduce its irritating property it was some years ago suggested to employ in combination with it a small proportion of Carbolic Acid. After repeated and quite extensive use of this combination, the irritating property has been shown to be reduced to a temporary stinging sensation upon application which, however, is rapidly followed by a soothing feeling. A useful agent to be combined with the Alum and Carbolic Acid is found in Camphor which adds its anodyne effect and thus makes the combination more generally effective. Thus a well-dried Alum to which is added a small proportion of Carbolic Acid and Camphor has proved a most efficient antiseptic and styptic in the hands of veterinarians generally for some years past, and in the practice of the general surgeon more recently. It is best applied by placing a small quantity in the hollow of the hand and pressing it immediately into the wound. Any excess is not objectionable and ultimate success largely depends on keeping the exposed surface well dusted with the powder. The only caution which seems to be called for is to avoid such an application as would plug up a suppurating pocket, thereby increasing rather

than diminishing the burrowing process possibly then going on. In such cases it would be advisable to introduce the Powder into the bottom of such a pocket by insufflation in order to promote healthy granulation outward. It may be interesting to remark here that the healing process has been observed to go on against gravity in a case lately observed where such a suppurating pocket was being treated by the use of this combination. Upon close examination of an abraded surface with the Powder applied it will be noticed that the affinity of the Powder for moisture keeps the surface constantly dry and thus septic material cannot exist. Bacteria need moisture to propagate, therefore the general importance of a thorough cleaning of the wounded part is not so great when using this combination, and in fact time may often be lost by an attempt to cleanse the part. The object then would be to apply such a Powder as rapidly as possible. It will also be observed that healthy granulation goes on with remarkable rapidity, and in the case of animals so little annoyance occurs that the too frequent tendency to lick or bite the abraded part appears to be lacking, thus naturally encouraging more rapid healing. After one or two dustings or applications the healing process goes on without the development of offensive pus or other disagreeable complications. It has now been repeatedly observed that such a wounded surface in a part covered with hair so heals over that the hair again grows on that part without the characteristic scar generally observed. No call for a compress or tight bandage seems to be necessary. There are, however, occasions where a light compress or bandage may be of some service in keeping the Powder in close application, but the general directions should be to permit the healing to go on entirely open and without the assistance which such a bandage would otherwise furnish. The application of the Powder should be continued as long as there is any discharge from the wound. The great secret in the effective use of Dried Alum itself or any combination into which it enters as a prominent ingredient, is to keep the Powder dry.

An additional use in hospitals has been its introduction into spittoons and bed pans in all cases of typhoid fever and pulmonary tuberculosis where its drying and antiseptic properties are so serviceable.

Amyloform—the patented substitute for Iodoform formed by the combination of Formaldehyde with Starch—has received no more attention in the literature of the past year than in the

previous one. The most prominent observer has expressed himself in the way of a criticism.

Dr. H. Sagebiel of Göttingen, Prussia made some "Observations upon the Effects of Treatment with Amyloform in Chronic Suppuration of the Middle Ear." In using it for purulent otitis of the middle ear he found it of little value. He criticises this combination in that the insoluble starch becomes lumpy and therefore is irritating to the tympanic cavity. He expresses his preference for boric acid or xeroform. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 1693)..

Anæsthesia as a topic for discussion has taken a very prominent place throughout the past year, and particularly in relation to the introduction of spinal cocainization as a definite mode of producing analgesia, and to the extension of local anæsthesia by interstitial infiltration. There seems to be little doubt that Dr. J. Leonard Corning of New York City initiated the suggestion as far back as 1885. Dr. August Bier of Griefswald, Prussia followed the suggestion up and published his results in 1899. He however took occasion to warn surgeons against the too general adoption of this method and only advised it as being safe in certain cases. Dr. Th. Tuffier of Paris, France undoubtedly gave this method an additional impetus throughout France but surely he was not the originator as some French writers are apt to either infer or actually claim. His latest report is on its application in 252 operations. The Paris Correspondent to the London *Lancet* has given a compact but interesting abstract of this method as applied by Tuffier. (*London Lancet*, Vol. I for 1901, p. 137).

A Russian observer, Dr. A. J. Golebski reports the results of his observations on forty-six dogs and a number of frogs, inducing analgesia experimentally by spinal cocainization. His observations coincided generally with those observed so far upon the human subject. He succeeded in preventing the convulsions following the administration of strychnine, picrotoxine and aconitine by this method. (*Centralbl. für Chirurg.*, Vol. 28, p. 164).

The number of surgeons reporting on the subarachnoid injection of Cocaine in the human subject is very large and little more can be done here profitably than to enumerate a limited number of the more prominent reports.

Dr. J. E. Massey, Jr., of Rock Hill, S. C. rather apologizes for making a report on his use of this form of injection but gives as

his reason that he has seen nothing concerning its use from physicians and surgeons of the South, and he can not permit it to be thought that nothing is being done in that region. He reports the case of a colored man forty-five years old. (*N. Y. Med. Journ.*, Vol. LXXII, p. 676).

Dr. Rudolph Matas of New Orleans, La. has continued to study this whole subject in order to add to what he had accomplished last year (alluded to here last year), for he has now made quite an elaborate report giving fourteen well-defined cuts illustrating his work. He closes as follows:

"Judging purely from my personal experience, I would limit the indications for its applications at the present moment:

1. To adults, and to reasonable persons who have good self-control, thereby excluding children, hysterical patients, and the insane.
2. To patients in whom the methods of local or regional anesthesia are inapplicable.
3. To patients suffering from emphysema, advanced asthma, chronic bronchitis, and other respiratory affections in whom a general inhalation anesthetic is absolutely contraindicated; in advanced cardiac cases with degenerative lesions, I would fear the possible depressing effects of the injection and excitement on the circulation.
4. In the majority of cases in which the painful part of the operation is not likely to be prolonged beyond one hour and a half, as I would be averse, in the present state of our knowledge, to repeat a second cocainization or to increase the total dose of the cocain to more than 2 cgm., especially in exhausted subjects." (*Phila. Med. Jour.*, Vol. 6, p. 820).

Dr. George R. Fowler of Brooklyn has published an article entitled "Cocain Analgesia from Subarachnoid Spinal Injection, with a Report of Forty-four Cases, Together with a Report of a Case in which Antipyrin was used." (*Phila. Med. Journ.*, Vol. 6, p. 843).

Dr. S. Ormond Goldan of New York City read a paper before The New York State Medical Association in October 1900 on "Intraspinal Cocainization for Surgical Anæsthesia." (*Phila. Med. Journ.*, Vol. 6, p. 850).

It may be interesting to mention here that numerous articles and papers on this topic and general anæsthesia are grouped together in a symposium number of the *Philadelphia Medical Journal* for November 3rd, 1900 (Vol. 6).

Dr. S. Ormond Goldan of New York City still continues to write on the same topic and read a paper on "Some Observations on

Anæsthesia by Intraspinal Injections of Cocaine" before the Section on Obstetrics and Gynecology of the New York Academy of Medicine on October 25th last. He groups together some twenty-five cases. (*Med. News*, Vol. LXXVII, p. 719).

Dr. George R. Fowler of Brooklyn, N. Y. comments editorially in the *Annals of Surgery* (Vol. XXXII, p. 847) on this mode of producing analgesia and points out that in prolonged operations in regions below as well as above the seat of puncture, it will still be found quite necessary to make use of general anæsthesia by means of ether or chloroform. He goes on to discuss the question of the risk involved.

Dr. Fowler again read a paper before the Medical Association of Greater New York on December 10th last on "A Study of Eighty-one Cases Operated upon under Analgesia Obtained by Subarachnoid Spinal Cocainization." He closes as follows: "At the present time we may only say that Corning's method has an undoubted sphere of usefulness in surgery. The indications for and limitations of, as well as whatever danger may attend its employment can only be determined by further trial and careful study of a large number of cases." (*Med. News*, Vol. LXXVIII, p. 1).

Dr. Samuel L. Weber of Chicago, Ills. contributes an article on the "Scope of Medullary Anæsthesia" and concludes that this method is here to stay and its scope will extend with gradual experience. (*Chicago Med. Recorder*, Vol. XX, p. 29).

Drs. Umberto Manega of Osimo, Italy and F. Pullé of Riccione, Italy have successfully treated sciatica by the subarachnoid injection of 15 milligrammes (about $\frac{1}{4}$ of a grain) of Cocaine which was introduced in the form of 0.75 Cc. (12.5 minims) of a 2 per cent. solution of the hydrochlorate. The analgesia is reported to have lasted about ten to twelve hours and the sciatica did not return. (*La Sem. Méd.*, Vol. 21, p. 72).

Drs. P. Marie and E. Guillaïn of Paris, France reported, at a meeting of the Medical Society of Hospitals on March 29th last, the case of a thirty-five year old man who was suffering from an acute right-sided sciatica on whom he had used this mode of treatment. It is reported that the pain ceased completely within six minutes and was such a relief that the man insisted on going to work at once. The pain returned later on the same day but was far less severe and finally disappeared slowly but completely. (*Gaz. hebdom. de Med. de Chirurg.*, Vol. 48, p. 318).

Dr. John B. Murphy of Chicago, Ills. read an article about the same time as the above before the Western Surgical and Gynecological Association on "Analgesia from Spinal Subarachnoidean Cocainization." (*Journ. Amer. Med. Assoc.*, Vol. XXXVI, p. 359).

Dr. Augustus C. Behle of Salt Lake City, Utah reports a case of "Amputation of Both Feet Under Spinal Anæsthesia with Cocain" in which he states that the man "was discharged from the hospital on the fifteenth day after the operation and the stumps could be handled with very little pain to the patient. (*Phila. Med. Journ.*, Vol. 7, p. 389).

Dr. Chaput of Paris, France reported favorably on lumbar cocainization at a meeting of the Paris Surgical Society on April 24th last in that he had made use of it in a total of 57 minor and major operations. (*Bull. et Mém. de la Soc. de Chirurg. de Paris*, Vol. XXVII, p. 451).

Dr. William S. Bainbridge of New York City reported his first seven cases of analgesia produced from spinal injection, in a paper on "Analgesia in Children by Spinal Injection, with a Report of a New Method of Sterilization of the Injection Fluid." (*N. Y. Med. Record*, Vol. 58, p. 937.) A few months later he made a report on twenty-four operations performed during spinal cocainization. (*Med. News*, Vol. LXXVIII, p. 693).

Dr. Edward N. Liell of Jacksonville, Fla. reported his personal observations on "Subarachnoid Spinal Cocainization as a Means of Inducing Surgical Anæsthesia" and concludes as follows:

"We are justified in entertaining the hope that this method will have its field of practical usefulness in the near future along with ether, chloroform and nitrous oxide. It not only dispenses with the services of the assistant, but complicating inhalation or aspiration and hypostatic pneumonias are averted." (*N. Y. Med. Record*, Vol. 59, p. 728).

In the gynecological line Dr. Umberto Manega of Osimo, Italy describes his mode of proceeding and reports having made use of intramedullary injections of Cocaine in quite a variety of operations. Of the more serious he reports success in four laparotomies (ovariotomy, excision of the head of the pancreas, hysteropexy and purulent peritonitis), two severe operations of the kidney and ten for hernia. The age of the patients varied from 5 to 75 years. (*La Riforma Med.*, part four of Vol. XVI, pages 110 and 122).

Dr. J. Riddle Goffe of New York City reports two cases of

hysterectomy performed under Cocaine anæsthesia by lumbar puncture. He concludes as follows:

"As far as I know these are the first operations, aside from the obstetric experience of Dr. Marx, that have been attempted according to this method of anesthesia in this country, and it is quite possible that the abdominal hysterectomy is the first on record anywhere. At least I can find no mention of this operation in the list of surgical procedures reported in Europe, although those lists include vaginal hysterectomies, appendectomies, vaginal sections and herniotomies." (*Med. News*, Vol. LXXVII, p. 559).

As far as would appear Dr. Simon Marx of New York City was probably the first surgeon (at least in this country) who undertook successfully "Analgesia in Obstetrics Produced by Medullary Injections of Cocain." His preliminary report relating his first six cases was published on August 25th, 1900 (*Med. News*, Vol. LXXVII, p. 293). He next reported twenty-three cases more in the following October (*N. Y. Med. Record*, Vol. 58, p. 521). Finally he completes the record of a total of over forty cases of labor in his report as found published the following November 3rd. His description of how he proceeds is interesting. He states: "The keynote is perfect quiet while operating."..... "Apprehension is ever present, and a morbid fear that she might suffer pain causes not actual but psychical pain. This I have repeatedly demonstrated."..... "The eyes of the patient are snugly bound and the ears are thoroughly plugged with cotton."..... "The patient is constantly being reassured, her mind diverted by various measures—one patient was chewing ice while being operated upon, and interrogated by one person as to her sensations." (*Phil. Med. Journ.*, Vol. 6, p. 857).

At a meeting of the New York Obstetrical Society on November 13th last Dr. Marx read a paper on "My Failures and Successes with Spinal Anæsthesia" which evidently included other operations than obstetrical, for he made the statement that he had up to that time made one hundred punctures with two failures, both of which latter occurred in intensely neurotic Italian women upon whom pelvic operations were to be performed. He concludes as follows: "In all cases in which cocaine was employed I have obtained the happiest results. In no case were any bad symptoms noted, except in one in which by mistake with the cocaine a sixth

of a grain of morphine was given. The patient was seized with all the symptoms of grave opium poisoning, and required pretty heroic measures to bring her out of her soporose condition." (*N. Y. Med. Journ.*, Vol. LXXII, p. 1026).

Drs. E. Bunn and Oscar Kreis of Basel, Switzerland report six cases of anæsthesia produced by lumbar puncture in obstetrical practice. They state that no complications followed and no bad symptoms other than a little cephalalgia, vertigo and nausea in one patient. (*La Sem. Méd.*, Vol. 20, p. 246).

Drs. N. J. Hawley and F. J. Taussig of St. Louis, Mo. published a report of twenty-one cases of subarachnoid cocainization in obstetrics and gynecology. They conclude as follows:

"It is doubtful if the puncture will ever replace general narcosis in abdominal operations. In vaginal coeliotomy and minor gynæcological work it seems to have its greatest field of usefulness and will, we believe, come more in vogue as its merits are more fully observed and understood." (*N. Y. Med. Record*, Vol. 59, p. 91).

Dr. Doléris of Paris, France reports fifty obstetrical cases, and is thereby convinced that Cocaine introduced by spinal injection stimulates the uterine muscle to contraction and thus hastens delivery. Having obtained such successful results in two cases of uterine inertia he suggests that it may be found useful in cases of eclampsia in which rapid delivery is frequently desirable. (*Le Bull. Méd.*, Vol. 15, p. 129).

Dr. J. Dupaigne of Paris, France reports on "Rachidian Anæsthesia by Cocain applied to Labor" after a month's use and believes it is the ideal form of anæsthesia. He claims it is perfectly safe under all conditions. (*Annales de Gynécol. et D'Obstét.*, Vol. LV, p. 44).

Dr. George R. Fowler of Brooklyn, N. Y. again contributes something on analgesia, this time in the form of simultaneous employment of the analgesia obtained by spinal cocainization and ether or chloroform narcosis. He enumerates three cases and concludes as follows:

"These cases are brought forward for the purpose of illustrating what may be done in the way of surgical procedures in cases in which general anesthesia as usually employed is positively contra-indicated, and to meet the objections of those who lay so much stress upon the "mental effects" of operating upon patients while the latter are fully conscious of the environment. I am not aware

that the suggestion has heretofore been offered or carried into effect, of producing a slight narcosis for the purposes of the spinal lumbar puncture, or of combining narcosis for the purpose of obliterating the touch sensation and the mental disturbances with the analgesic effects of spinal cocainization." (*Amer. Med.*, Vol. II, p. 611).

Dr. Karl Schwarz of Agram, Austria-Hungary reports on sixteen operations where subarachnoid injections of Tropacocaine were used in place of Cocaine. He claims that none of the pallor, vertigo, headache and vomiting following Cocaine were present, therefore he prefers this agent to Cocaine. He made use of varying doses of from 30 to 50 milligrammes (from $\frac{1}{2}$ to $\frac{4}{5}$ of a grain). (*Centralbl. für Chirurg.*, Vol. 28, p. 248).

Dr. Willy Meyer of New York City also expresses his preference for Tropacocaine Hydrochlorate and has written an article recommending its substitution for Cocaine Hydrochlorate in spinal anæsthesia. He concludes as follows:

"I have thus far employed spinal anesthesia in the surgery of the urinary system only such as Bottini's operation, litholapaxy, vesical tumor, primary and recurrent, and must confess that in every instance I have been delighted with its immediate local analgesic effect. And, while, of course, the unpleasant symptoms accompanying the use of cocaine in spinal anesthesia are deplorable, it must be remembered that general anesthesia also quite frequently is attended by the same annoying symptoms, except, perhaps the fever. I have been satisfied so thoroughly with my results that I fully made up my mind to continue spinal anesthesia in urinary surgery. Now, however, since the drawbacks hitherto connected with this mode of producing widespread analgesia seem to have been removed, I shall be all the more ready to make use of this kind of anesthesia whenever the indication is present, and, I am sure, others will feel the same way in regard to this question.

Of course, further investigation and careful observation are needed to settle definitely many important and interesting points which are still *sub judice*." (*Med. News*, Vol. LXXVIII, p. 569).

Drs. F. Legueu and L. Kendirdjy writing in Paris report fifty-seven cases of subarachnoid anæsthesia—forty-eight with Cocaine and nine with Eucaine. They find that the dangers are very much lessened by the use of Eucaine, and propose to confine their use to this agent. They enumerate as some of the advantages of lumbar

anæsthesia the continued consciousness of the patient, his ability to eat his meals before and after operation and the infrequency of vomiting. Unexpectedly they have noticed that those who witness operations on patients thus conscious urge such form of anæsthesia in their own cases when operated upon. (*Presse médicale*, Vol. 8, p. 299).

Dr. Jaboulay of Lyons, France, after some experimentation, has proposed to so inject Cocaine as to simply anæsthetize the nerve trunk supplying the region to be operated upon in place of injecting into the spinal canal to produce local anæsthesia throughout the parts below the puncture. He is reported to have met with success in a case of disarticulation of the scapulo-humeral joint in which septicemia prevented the use of general anæsthesia. (*La Sem. Méd.*, Vol. 20, p. 398).

Some of the criticism to spinal cocainization may be alluded to here with profit.

Dr. August Bier of Greifswald, Prussia writing on "Cocainizing the Spinal Cord" utters the warning that severe symptoms of collapse may follow this practice and even death, in addition to the usual ill-effects of Cocaine on the system. It has been noted that at times even very small doses of Cocaine will produce these symptoms. He therefore does not consider that we are yet justified in introducing this method into general practice. He would warn surgeons about using larger doses than 15 milligrammes (about $\frac{1}{4}$ of a grain). (*Muench. Med. Wochensch.*, Vol. XLVII, p. 1226).

On the other hand Dr. Th. Tuffier of Paris, France stated at a meeting of the Paris Academy of Medicine on March 26th last that out of 1,300 cases of intraspinal anæsthesia he could report only one fatal case in a patient who had heart disease.

In the discussion on the subarachnoid injection of Cocaine and its salts (Bier's method), Dr. J.-V. Laborde of France protested against some of Dr. Tuffier's assertions, particularly that heart disease and arteriosclerosis do not contraindicate spinal cocainization. (*Bull. de l'Acad. de Med.*, Vol. XLV, p. 378).

Dr. Paul Reclus had also previously taken issue with Dr. Tuffier in his claim as to the harmlessness of this form of anæsthesia. In his experience this method of securing anæsthesia is uncertain and not always the same. (*Presse Médicale*, first part of Vol. 9 for 1901, p. 217).

Dr. Rudolf Trzebicky of Cracow, Austrian Galicia has reported

138 cases of cocainization of the spinal cord according to Bier. Of these 103 were successful, 4 had to be finished up with chloroform and 31 were not successful. His conclusions are that this method cannot yet replace ether or chloroform anæsthesia, particularly in private practice. (*Wien. klin. Wochensch.*, Vol. XIV, p. 546).

Dr. S. Ormond Goldan of New York City contributed a paper on "Intraspinal Cocainization from the Anæsthetist's Standpoint" in which he concludes as follows: "When we consider the manifold disadvantages of intraspinal anæsthesia and its few questionable advantages, we may well ask whether the use of the method, except in very rare instances, is not a step backward rather than forward. (*N. Y. Med. Journ.*, Vol. LXXII, p. 1089).

Dr. Fritz Dumont of Berne, Switzerland has published quite a complete summary of the literature of anæsthesia by intra-arachnoid injections of Cocaine, and in giving his experience of three of his own cases feels called upon to express his agreement with the conclusions of Dr. Bier, that spinal cocainization is at present unjustifiable. He would also evidently discourage this method of producing anæsthesia in obstetrical practice, as from his observation, he believes general anæsthesia is safer during labor than at any other time. (*Correspondenzbl. für Schweiz. Aerzte*, Vol. XXX, p. 585).

Dr. Andrew J. Downes of Philadelphia, Pa. reports five cases of spinal anæsthesia where general anæsthesia was strongly contra-indicated. Three of the patients died at the end of 24 hours, one on the fifth day and the other on the seventh day. He states that he could not attribute his fatal results to the method. (*Amer. Gyn. and Obstet. Journ.*, Vol. XVIII, p. 413).

Drs. Paul Heinze and H. Braun of Dresden, Germany recommend a special formula for local anæsthesia to avoid the ill-effects produced by locally injecting either Cocaine or Eucaïne alone. They claim that the solutions of these agents are not isotonic with the blood serum but that they may be made so by adding common salt. They recommend the following formula:

Eucaïne B.....	0.1 gramme	(1.5 grains)
Sodium Chloride.....	0.8 "	(12.4 ")
Distilled Water at 98.4°..	100.0 "	(about 3½ fluidounces)

(*Therap. Monats.*, Vol. XV, p. 276).

Dr. Albert A. Gray of Glasgow, Scotland finds it necessary at times to use strong solutions of Hydrochlorate of Cocaine to produce local anæsthesia in his ear, nose and throat work, and claims to avoid the dangers of using such strong solutions, by mixing with Eucaine B. He proceeds as follows: Two solutions are made, one a 20 per cent. solution of Cocaine Hydrochlorate in alcohol and the other a 15 to 20 per cent. solution of Eucaine in anilin oil. He remarks that this "latter is not a true solution, however, as eucaine is only soluble to about the extent of 10 per cent. in anilin oil; a proportion of the eucaine, therefore, lies at the bottom of the bottle. Before use the bottle containing solution No. 2 is well shaken up and 10 minims (measured) are poured out; to this are added 10 minims of No. 1 solution and the mixture becomes clear in a few seconds. This gives the following formula: cocaine hydrochlorate 10 parts, *B*-eucaine 10 parts, anilin 50 parts, and rectified spirit 50 parts. Of course this solution may be kept in stock, but it turns brown very soon and appears to a slight extent to lose its highly penetrating quality. I therefore keep the solutions separate until just before use, though perhaps the precaution is unnecessary. With this solution I have been able to dispense with all aqueous solutions of cocaine in ear and throat work.

The method of use is different according to the region in which the anæsthesia is desired. In the ear the method I formerly employed was to pour the solution into the meatus while the head was turned to one side. I frequently employ this method still, but another equally efficacious way was suggested to me by Dr. Arthur Hutchison—viz., to soak a small strip of gauze with the solution and to push it down the meatus through the speculum to the required depth. This method certainly diminishes the amount of cocaine and anilin oil absorbed." (London *Lancet*, Vol. I for 1901, p. 698).

Dr. Leo B. Meyer of New York City also believes in the use of Eucaine B as a local anæsthetic. He reports that he has made use of a 6 per cent. solution in the radical operation for inguinal hernia. He concludes as follows:

"I do not wish to be understood as an unqualified opponent of operating upon hernias under local anæsthesia. I simply wish to help in defining its limitations, and since the only real advantage of the method is the removal of the element of danger of general anæsthesia (and this element nowadays is practically nil, except in old

people and those subject to certain diseases, such as advanced emphysema, and advanced chronic endocarditis) it seems to me that the method should be employed only in those cases in which the administration of a general anæsthetic is dangerous.

For this reason I believe that this method of operating in hernia should not even be suggested to patients whose condition is good, and in whom the administration of a general anæsthetic is reasonably free from danger. Indeed, it is quite possible that the method will not be practised so extensively, even by those who are now its strongest advocates, if cocainization of the spinal cord prove finally to be as free from danger as recent experiments seem to indicate." (N. Y. *Med. Record*, Vol. 58, p. 972).

The use of the Schleich Mixture has practically died out in this country although some surgeons are still making use of it in the West to some extent. Abroad, however, investigation is still going on and some successful results continue to be published.

Dr. P. Ilvin of Moscow, Russia has employed the Mixture in 135 cases with good results. (*Klin. therap. Wochensch.*, Vol. VII, p. 930).

Dr. Friedrich von Friedländer of Vienna, Austria relates his "Experiences with Local Anæsthesia by Schleich's Method" and lays stress upon the fact that Schleich's technique is important. He would advise the use of this method in all skin operations, in operations of the extremities, of the abdomen and wherever ether or chloroform are contraindicated. (*Wien. klin. Wochensch.*, Vol. XIII, p. 1166).

At a meeting of the Society of Anæsthetists held in London on March 1st last Dr. R. J. Howard read a paper on "A Modified Form of Dr. Schleich's Anæsthetic Mixture." The modification is recommended by Dr. Wertheim of Vienna, Austria, and the formula is:

Chloroform	1 part
Petroleum Ether.....	1 "
Ethylie "	2 parts

It is reported that when this Mixture is used in experimentation on animals there is hardly any fall in the blood-pressure noticed until the inhalation is pushed to the extreme. (London *Lancet*, Vol. I for 1901, p. 864).

Dr. F. Selberg, of Greifswald, Prussia speaks "On Narcosis by

Schleich's Anæsthetic Mixtures" and reports on the results obtained in 175 cases. He draws the conclusion that recovery follows more easily than from chloroform, that there is less pain after its use than after ether or chloroform alone and that there seems to be less danger noticeable during the time of anæsthesia. On the other hand, however, it is more difficult to get the patient under, the disposition to complications afterward appears to be increased and its administration is a little out of the ordinary. He therefore would claim that it unfortunately is not the ideal anæsthetic. (*Archives für Klin. Chirurg.*, Vol. 63, p. 370).

Dr. Robert M. Stone of Omaha, Neb. writes that it becomes his painful duty to report a death in his practice from the use of the Schleich Mixture. He however still expresses his confidence by stating that his 441 administrations of the Schleich solution, with serious symptoms in only 13 and death in but one, allow him "to think that its administration gives more quiet, more freedom from nausea and vomiting during and after, and greater safety than either ether or chloroform." (*N. Y. Med. Record*, Vol. 58, p. 236).

The use of Nitrous Oxide either alone or combined with ether or chloroform is probably somewhat on the increase, according to reports made throughout the past year.

Dr. D. H. Galloway of Chicago, Ills. reports on a case where complete failure to secure anæsthesia resulted with chloroform, where perfect success followed with Nitrous Oxide gas and ether. (*Journ. Amer. Med. Assoc.*, Vol. XXXV, p. 498).

In the latter part of the same year Dr. Galloway made a "Report on the Use of Nitrous Oxide as an Auxiliary to Ether and Chloroform Anæsthesia. Fifty Cases." (*Chicago Med. Recorder*, Vol. XIX, p. 377).

Dr. Prescott Le Breton of Buffalo, N. Y. contributes an article on the history of "Anæsthesia by Nitrous Oxide Gas and Ether." He gives a cut of the Hewitt, Bennett and Goldan inhalers. He concludes as follows:

"The chief disadvantage is the cost and bulkiness of the apparatus. Some writers dislike the "close" inhaler, as the patient necessarily inspires again and again his own breath, including the carbon dioxide and particles of organic matter. It is questionable if this objection is not of theoretical rather than practical value." (*Buffalo Med. Journ.*, Vol. LVI, p. 87).

"A Report of 245 Cases of Anæsthesia by Nitrous Oxide Gas

and Ether" is made by Dr. Alice Magaw—anæsthetist to St. Mary's Hospital in Rochester, Minn. in which the advantages are described. (*St. Paul Med. Journ.*, Vol. III, p. 231.)

Dr. L. Coyteux Prévost of Otiawa, Canada contributes some interesting tables as the result of his experience in the use of Nitrous Oxide and Ether as an anæsthetic, particularly in regard to the occurrence of albumin before or after anæsthesia and of vomiting. He does not think that cerebrospinal cocainization has yet a very prominent place in surgery. (*The Canadian Journ. of Medicine and Surgery*, Vol. X, p. 1).

Dr. Thomas C. Evans of Louisville, Ky. regrets to have to report a death from Nitrous Oxide Gas in a girl five years old, even though he is satisfied that not over one-third of the ordinary quantity was given. (*Pediatrics*, Vol. X, p. 421).

In some quarters, particularly in Great Britain, the A. C. E. Mixture continues to be used with considerable satisfaction.

Dr. Edward Adams of New York City contributes some "General Remarks on the Combination of Ether (57 parts) and Chloroform (43 parts), Known as the M. S. Mixture." He concludes with a

"*Brief Summary.*—The chief advantages of M. S. are the following:

1. Stage of excitement and struggling are not marked.
2. It requires a short time to get a patient under, five or ten minutes.
3. Very little of the anæsthetic is required. On an average about 40 c.c. are used an hour.
4. It is a comparatively safe anæsthetic.
5. It is very pleasant to take.
6. The after-effects are not marked.
7. Patients recover quickly.
8. It can be used in nearly every condition in which either chloroform or ether is employed." (*Med. News*, Vol. LXXVIII, p. 213).

Dr. H. Braun of Leipzig, Germany offers a new simple apparatus for the administration of Ether and Chloroform in varying proportions to meet certain cases. He describes the technique recommended by means of two cuts, and reports that 250 patients have been anæsthetized by this method. (*Muench. Med. Wochensch.*, Vol. XLVIII, p. 777).

Dr. P. Sudeck of Hamburg-Eppendorf, Germany is an advocate of performing minor operations and even those of a more serious nature if they can be accomplished quickly, during the first stage of Ether anæsthesia. He takes pains to explain that this stage is not the usual so-called primary anæsthesia but begins with the first deep inhalations and lasts up to the time when consciousness begins to be lost. He explains the reason for the points he advocates. (*Deut. Med. Wochensch.*, Vol. XXVII, p. 102).

Mr. Thomas H. Morse, a surgeon in Norwich, England advocates local rather than general anæsthesia in certain cases of abdominal surgery, for he has observed that with local anæsthesia little or no shock has followed when abdominal sections are made. He reports on six cases and concludes as follows: "I hope by the above cases to draw attention to the fact that life can be saved by operation even in desperate cases if general anæsthesia is avoided; it is also probable that pain is less acutely felt when the patient is *in extremis*." (London *Lancet*, Vol. I for 1901, p. 1322).

Dr. Ernst Becker of Hildesheim, Germany advocates the use of some agent to diminish the secretions during Ether narcosis, in a paper "On Ether Narcosis." He reports that he has obtained excellent results with 500 patients by the addition to the Ether used of a small proportion of the highly volatile oil of *Pinus pumilio*. Its volatility is such that it is well adapted to the purposes of inhalation and has been used for some time past as one of the most important elements in the so-called "pine cure" in the German spas. He uses 1 gramme (15.4 grains) to every 200 grammes (about 7 ounces). (*Centralbl. für Chirurg.*, Vol. 28, p. 561).

At last the long-promised "Report of the Anæsthetics Committee of the British Medical Association" has been published. It is almost ten years since this Committee took up its work, and from even a cursory glance at the Report, the immense amount of work done can be appreciated. There are 25,920 cases recorded, all of which are carefully classified and the numerous data of each case tabulated for convenient reference. The conclusions drawn at the close of the Report are thirty-five and will be read with much interest by those following up this line of investigation. It may be well to refer here to the exact wording of the work as it was laid out for this Committee. It was formed "to investigate the clinical evidence with regard to the effects of anæsthetics upon the human subject, and especially the relative safety of the various anæs-

thetics, the best methods of administering them, and the best methods of restoring a patient in case of threatened death." Several deductions from the conclusions drawn and criticisms upon the Report have been made. Among them may be mentioned the remarks by Mr. George Eastes an English surgeon, read before the Society of Anæsthetists on February 15th last. (*Brit. Med. Journ.*, Vol. I for 1901, p. 441); a criticism by the President of the Society of Anæsthetists, Dr. J. Fred. W. Silk (*Brit. Med. Journ.*, Vol. I for 1901, p. 544), and one by Dr. Augustus D. Waller, Lecturer on Physiology, St. Mary's Hospital Medical School, London, England. (*Brit. Med. Journ.*, Vol. I for 1901, p. 447). The Editor of the *British Medical Journal* (Vol. I for 1901, p. 163) very pertinently points out that "perhaps the most important conclusions in the Report are that the occurrence of danger during anæsthesia depends largely upon the administrator, and that by far the most important factor in the safe administration of anæsthetics is the experience which he has acquired."

A month or two later the Editor of the *British Medical Journal* (Vol. I for 1901, p. 655) again expresses himself emphatically as follows: "The art of anæsthetisation is, it must be confessed, still in the stage of almost pure empiricism. In that stage the secret of skill is always, from want of radical knowledge, hard to impart or transmit, for its true basis is generally not rightly guessed even by its own possessor. But in a matter so important as surgical anæsthesia the profession cannot rest until it obtains definite knowledge, quantitative and scientific, chemical "measures" rather than personal "impressions," intelligible to and accessible to every member of the profession. For the conduct of deep anæsthesia may at any time fall to the lot of—thrust itself as an imperative duty upon—any member of the profession wherever the surgeon has to work."

Again he expresses himself in a way which applies equally to the conditions as they exist at present:

"The anomaly which has been recently pointed out in our columns that medical students may pass through their curriculum without any attendance upon lectures dealing with anæsthetics, and without having ever administered nitrous oxide gas, ether, or chloroform is, it is believed, shortly to be removed. A circular letter has been sent to the various hospitals by the Conjoint Board in England asking for information as to the present system of teaching anæ-

thetics, and whether all students are compelled by their hospital teachers to study both the theory and practice of anæsthesia. Unless we are greatly mistaken but one answer can be given. Only those students who seek hospital resident posts are compelled to receive instruction in this subject, and the majority of their fellows obtain their diplomas without even a nodding acquaintance with the uses of such potent agents as ether and chloroform. Whether it is desirable that every medical man should undertake habitually to give anæsthetics to all sorts and condition of patients is perhaps open to question, but it must be remembered that very many practitioners are obliged to undertake such duties. It seems evident, therefore, that all students should be compelled to learn at least the elements of the art of administering anæsthetics, since it may fall to the lot of any or all of them to administer ether or chloroform when they least expect to find the duty forced upon them. If, as seems probable, the Conjoint Board proposes to enforce instruction and certification of their efficiency in anæsthetics upon all students, we cannot but believe that a step is being taken in the right direction." (*Brit. Med. Journ.*, Vol. I for 1901, p. 1632).

On this question of "The Teaching of Anæsthetics," Mr. Frederic Hewitt of Queen Anne-street, London, W. England expresses himself very decidedly. (*London Lancet*, Vol. I for 1901, p. 212).

Dr. S. Ormond Goldan of New York City read a paper before the Medical Association of the Greater City of New York on March 11th last on "Anesthetization as a Specialty: Its Present and Future." He concludes as follows:

"The hospital can only lay the foundation for the skilled anesthetist, as it does for the surgeon. Whether anesthetization or surgery will be specially practised will be a matter of choice.

The anesthetist will not be considered a mere satellite of the surgeon, but recognized as one of a distinct class. There will be an incentive to men to give their best energies to the perfection of anesthesia; the old cry for a safer anesthetic will become a thing of the past; anesthetics will not so often be blamed for results not properly due to their use but abuse—then there will be a supply of skilled anesthetists throughout this country sufficient to fill every demand." (*Amer. Medicine*, Vol. II, p. 101).

Dr. M. L. Maduro of New York City writes in the same strain in a paper on "The Status of General Anæsthesia in 1900." He states in closing:

"In conclusion, I should like to urge the fact that too much stress cannot be laid on professional anesthetization—the employment of the specialist to administer the anesthetic, for, besides giving the operator, the family, and particularly the patient absolute confidence and comfort, it will certainly tend to efface bad results from unskilled work, thus establishing in this country an incentive to the growth of the "specialists in anesthesia" that will make them a distinct and representative body." (*Med. News*, Vol. LXXVII, p. 373).

Dr. C. Hofmann of Bonn, Rhenish Prussia in urging the desirability of obtaining competent anesthetizers and after alluding to his good results when administering Ether by the drop method, explains that his simple expedient to secure deep, regular, quiet respiration at the beginning of anæsthesia, is to direct his patients to count backward beginning at the figure 200. He begins at this number for the reason that the figures are somewhat difficult to pronounce and breathing between the pronunciation of each two figures is required. Also the mental act of counting necessitates concentration of thought to such an extent that the mind is taken off of the operation then being performed. (*Centralbl. für Chirurg.*, Vol. 28, p. 57).

Dr. Simon Marx of New York City is reported to have made use of "Hyoscin Hydrobromate against Accidents Following Cocainization of the Spinal Cord." By injecting beneath the skin 0.0003 of a gramme ($\frac{1}{160}$ of a grain) at the same time that spinal cocainization was being accomplished, or even as soon as the patient had experienced a sensation of nausea, the usual accidents were greatly diminished and at times even avoided. (*La Sem. Méd.*, Vol. 20, p. 406).

Dr. Aurelio Cordero of Parma, Italy advocates the use of Amyl Nitrite as an antidote to the ill-effects of lumbar cocainization. (*Gaz. degli Osped. e delle Cliniche*, Vol. XXII, p. 756).

New forms of apparatus for administering anæsthetics are still being offered, each one claiming superior advantages. Dr. S. Ormond Goldan offers "A Simplified Apparatus without Valves for the Administration of Nitrous Oxide alone or in Combination with Ether." His description of it including a cut, will be found in the *Medical News* (Vol. LXXVII, p. 89).

Dr. George R. Fowler of Brooklyn, N. Y. presents "A Combined Aspiration and Injection Instrument for Subarachnoid Co-

cainization." In his published article he gives a clear cut of the instrument. (*N. Y. Med. Journ.*, Vol. LXXII, p. 669).

Dr. Ernest Laplace of Philadelphia, Pa. presents "A New Aseptic Ether and Chloroform Inhaler," and in his description gives three cuts of the mask. (*Phila. Med. Journ.*, Vol. 6, p. 1003).

Dr. S. Ormond Goldan of New York City again describes his apparatus. This time he furnishes a cut showing the non-perishable valves and how the Nitrous Oxide may be administered either in combination or without Ether without change of inhalers. (*Journ. Amer. Med. Assoc.*, Vol. XXXV, p. 1578).

Dr. William B. Hidden of Boston, Mass. gives a description of an "Apparatus for Administration of Chloroform." Cuts are not furnished with this description. (*Phila. Med. Journ.*, Vol. 7, p. 9).

Dr. Frederic W. Hewitt of London, England in delivering "A Lecture on Some Recent Developments in the Administration of Anæsthetics" gives four cuts of the apparatus he uses. (*London Lancet*, Vol. I for 1901, p. 916).

In writing upon "Spinal Anæsthesia by Cataphoresis," Dr. J. Leonard Corning of New York City describes a small instrument which he makes use of in this operation. In his description the cut was unfortunately omitted, but it appears in the second reference here given. (*N. Y. Med. Journ.*, Vol. LXXIII, pages 754 and 833).

Dr. Ludwig Moszkowicz of Vienna, Austria makes use of a simple apparatus for Schleich's infiltration anæsthesia whereby the syringe is dispensed with and the fluid is automatically injected. He describes how he proceeds. (*Centralbl. für Chirurg.*, Vol. 28, p. 492).

Aniodol—the name adopted for an antiseptic "solution of formalic and allylic derivatives" (?)—has not appeared in the prominent medical literature of the past year, in new form. The short note of comment found in more than one journal appears to be a repetition. Dr. Sedan, who reported last year on its efficiency in skin affections, and the reference alluded to here last year, has now expressed himself in print in conjunction with Mrs. Mouren, Superintendent of the Marseilles Maternity "On Aniodol in Obstetrics." (*Bull. Gén. de Thérap.*, Vol. CXL, p. 557).

Antinosin (Sodium salt of Tetra-Iodo-Phenol-Phthalein) has not received any separate comment of any practical value throughout the past year.

Antipyrin (Phenazone) is so much more frequently employed now-a-days in combination with other agents that there

seems to be little call for specially commenting on its individual use. Therefore only one reference will be made here as of possible interest at this time.

Dr. M. G. Linossier of Lyons, France made a verbal report at a meeting of the Paris Therapeutical Society on February 27th last on the use of Antipyrin in rheumatism. He claims that daily doses varying from 3 to 4 grammes (46.3 to 61.7 grains) are fully as efficient as the salicylates, with the advantage that the disagreeable effects of the former are much less. He imagines that Antipyrin has a very marked effect in diminishing the tendency toward heart complications. (*Revue de Thérap.*, Vol. LXVIII, p. 151).

Antitoxins have lost none of their importance and prominence during the past year. Many false statements and misleading arguments have been refuted, and the increasing number of successes have either converted many skeptics or kept them rather quiet in their denunciation. Quite a complete résumé of our present knowledge concerning protective inoculation and serumtherapy was read in the form of a paper by Dr. J. L. Bunch of London, England at a meeting of the North London Medical Society on February 14th last which is worth reading carefully as it brings our knowledge up to date from the English standpoint. (London *Lancet*, Vol. I for 1901, p. 543). An abstract of this paper as written by the Editor of the London *Lancet* (Vol. I for 1901, p. 570) is worth repeating here:

"The majority of practitioners have neither time nor opportunity to study elaborate records of research works and will welcome such a concise presentment of the *status quo* as is given in this paper. Immunity is a condition which has only comparatively recently been investigated. Several theories have been advanced to attempt to explain the forces acting within the body which tend to produce the required resistance to disease. Some of these forces are natural; others are acquired or artificially introduced into the organism. The chief of these theories Dr. Bunch explains and criticises. The methods employed in attenuating cultures are also described. The bitter disappointment to which tuberculin gave rise is commented on, and the attempt to bring about satisfactory protective inoculation in connexion with typhoid fever receives due attention. Here, like other pathologists, Dr. Bunch is forced to conclude that further statistics are necessary before any definite conclusions can be arrived at. To the practitioner the question of cure

or arrest of an already developed infectious disease, will probably have the greatest interest. The investigations of Behring, Kitasato, and Sidney Martin in the serum-therapeutics of diphtheria are briefly described. Dr. Bunch lays stress on one point which has hitherto not received the attention it merits—namely, that antitoxin serum has no reparative action. It cannot regenerate cells which have already undergone katabolic pathological changes, and, further, a certain amount of antitoxin can only neutralise a certain amount of toxin. It follows from this that it is necessary to commence the treatment at the earliest possible moment, when there is a minimum amount of toxin already in the circulation, and we agree with Dr. Bunch that, seeing how innocuous its employment is, a large dose of serum should be given at the earliest possible moment in every case of diphtheria. Some authorities, especially in the United States, recommend that all patients suffering from suspicious sore-throats should receive a full dose of the antitoxin. We do not go quite so far as this, but undoubtedly valuable time is often lost in suspicious cases waiting for a bacteriological diagnosis which may then be only a doubtful one, the toxin meanwhile increasing in the body and the prognosis in a similar ratio becoming more grave.”

Dr. M. D. Rabenoyich of Toledo, Ohio has called attention to some “Important Points Concerning the Dosage of Antitoxin.” He evidently desires to emphasize the fact that every case must be treated on its own merits and that no definite fixed rule can be followed in every case. From his experience he would always give a preliminary injection of nothing less than 3000 units and he may reach in subsequent injections 50,000 units or more. Apparently his only guide as to the amount to be used is the shrivelling up of the membrane and the disappearance of constitutional symptoms. (*Cincinnati Lancet-Clinic*, Vol. XLVI, p. 443).

Dr. John H. McCollom of Boston, Mass. makes “A Plea for Larger Doses of Antitoxin in the Treatment of Diphtheria” and relates the clinical history of eleven cases to bear out his arguments, and concludes as follows:

“From a comparison of the health reports of Boston before and after the introduction of the antidiphtheritic serum; from a comparison of the health reports of other cities; from a study of hospital reports; from a clinical observation of nearly 8,000 cases of diphtheria, the following conclusions are justifiable:

(1) That the ratio of mortality of diphtheria per 10,000 of the living was very high in Boston previous to 1895.

(2) That the ratio of mortality per 10,000 has been very materially reduced since the introduction of antitoxin.

(3) That the percentage of mortality in the South Department is lower than that of any of the hospitals taken for comparison.

(4) That since larger doses of antitoxin have been given the death rate has been materially reduced, this reduction having occurred in the apparently moribund cases.

(5) That no injurious effect has followed the use of the serum.

(6) That to arrive at the most satisfactory results in the treatment of diphtheria, antitoxin should be given at the earliest possible moment in the course of the disease." (*Boston Med. & Surg. Journ.*, Vol. CXLIII, p. 627).

Many skeptics claim that since the Antitoxin method of treating diphtheria has been brought into use in hospital practice a relatively larger number of mild cases are brought into the hospitals and therefore the favorable results are thereby that much falsified. When these observers are reduced to such arguments without considering the private as well as the hospital cases taken as a whole, their criticisms are apt to be entirely ignored and no attempt is made to refute them.

Dr. Demetrio Galatti of Vienna, Austria had evidently been confronted with this argument for he at once began a study of cases coming under his charge in which symptoms of laryngeal stenosis were present and in which he performed intubation. He already had records of some 29 cases before the introduction of serumtherapy and he was now able to observe 32 after the introduction of this mode of treatment, and the whole series covered several years time. Of the 29 cases recovery occurred in 21 per cent. without operative intervention, while in the 32 cases 44 per cent. recovered without operation. The 32 cases are tabulated in an interesting way. (*Wien. Med. Wochensch.*, Vol. 51, pages 70 and 127).

Dr. F. Cuno of Frankfort-on-Main, Prussia has made a written report on "The Results of Serum Treatment in Diphtheria, 1894-1900, Tracheotomy and Intubation." He claims that it is quite useless to wait for a bacteriological investigation before beginning

the injection of Antitoxin, and finds that intubation and tracheotomy are far less necessary now-a-days than formerly. He gives some statistics concerning 31 children on whom he used intubation. (*Muench. Med. Wochensch.*, Vol. XLVIII, p. 788).

Dr. Theodor Escherich of Berlin, Germany classifies cases of diphtheria into three varieties.

First, local where there is slight susceptibility to the action of the toxin.

Second, progressive where there are evident signs of extension into the air passages.

Third, the so-called toxic-septic variety. (*Berlin Klin. Wochensch.*, Vol. XXXVIII, p. 33).

Dr. W. Blair Bell of London, England reports his notes on three consecutive cases of severe laryngeal diphtheria, in a paper written by him on "Tracheotomy with Antitoxin in Laryngeal Diphtheria" in which he performed tracheotomy. (*London Lancet*, Vol. II for 1900, p. 729).

Dr. Fred Grant Burrows of San Francisco, Cal. has written a very interesting paper entitled "A Clinical Study of Diphtheria" giving an account of 2093 cases treated by him at the Boston City Hospital dating from August 7th, 1899 to August 6th, 1900. He expresses himself as follows: "This series of cases has afforded an exceptional opportunity for studying the effects of antitoxin on early diphtheritic membrane. Many of the cases came under my personal observation, and I have repeatedly seen the false membrane extend and thicken even after three or four 4000-unit doses of antitoxin had been given; and then rapidly disappear when double that amount had been given, the patient making a rapid and uncomplicated recovery.

The earlier cases of this series of hospital attachés were ill, on the average, much longer than the later ones; for the dose of antitoxin is at present more than double what it was four years ago, and the intervals between the doses are much shorter." (*Amer. Journ. Med. Sciences*, Vol. CXXI, p. 125).

Dr. Richard A. Cleeman gives a short clinical history of "Thirty-five Cases of Diphtheria in Private Practice Treated with Antitoxin." (*Univ. Med. Magazine*, Vol. XIII, p. 706).

Dr. R. W. Marsden of Manchester, England publishes the tabulated results of 105 hospital cases of diphtheria observed by him throughout their course. They were from two separate sources:

From attacks among the nursing staff and in patients suffering from or convalescing from scarlet fever. (*Brit. Med. Journ.*, Vol. II for 1900, p. 658).

Dr. A. E. Porter of Chelmsford, England with the urgent desire to find out "The Value of Antitoxin in the Prevention of Diphtheria" in private practice adopted the plan of paying the medical practitioners throughout the rural districts of Essex, Chelmsford and Malden, England a small sum for each prophylactic injection of Antitoxin given with the sanction of the medical officer of health on the occurrence of a case of diphtheria in a household. Throughout this region there was an epidemic of quite a virulent type for twelve months. To the time of publishing his report this practice had been "adopted in 24 families, with the gratifying result that, with one possible exception, not a single person so injected has subsequently developed diphtheria, notwithstanding the fact that two-thirds of the cases were treated at home. In eight instances the injection was refused, and amongst these there were three subsequent cases of diphtheria. One of the houses (No. 3) was a home for orphan children; all the remainder, with two exceptions, belonged to members of the labouring classes; many of them contained but two sleeping-rooms, and these frequently communicated with one another. Wherever there was any doubt as to the nature of the case a bacteriological examination was made to confirm the diagnosis. Of the 136 persons thus protected 60 were adults of 20 years of age and upwards. The remainder were children chiefly at about the school age, and swabs from the throats of many gave almost pure cultures of the diphtheria bacillus on blood serum." (London *Lancet*, Vol. I for 1901, p. 1753).

Dr. John Mackenzie of Kirby-in-Ashfield, Nottingham, England publishes his "Notes on Thirty-one Cases of Diphtheria Treated with Antitoxin." They extended over a period of five years and consisted of the most serious cases which had occurred in his practice. (London *Lancet*, Vol. II for 1900, p. 1064).

In a discussion which occurred in the Section on Pediatrics of the New York Academy of Medicine at the stated meeting on October 11th, 1900 Dr. Henry F. Koester of New York City opened the subject by reading a paper on his "Conclusions Formed after Six Years' Experience with the Antitoxin Treatment of Diphtheria." (*Med. News*, Vol. LXXVIII, p. 81).

Dr. William H. Park of New York City discussed the quantity

and grade of diphtheria Antitoxin required in the treatment, and stated that he had adopted the following doses:

"Very mild cases, 1,000 to 1,500 units for the first dose.

Moderately severe cases, 2,000 to 3,000 units for the first dose.

Very severe cases, 4,000 to 5,000 units for the first dose.

Laryngeal cases, according to their severity, 2,000 to 5,000 units.

For children under one year old he gives about a third less than for older children and adults. As from 40,000 to 60,000 units have been given, we need have no fear of giving all the antitoxine that we think indicated." (*Archives of Pediatrics*, Vol. XVII, p. 823).

Dr. J. N. d'Esterre of Eastbourne, England illustrates "The Value of Diphtheria Antitoxin in the Treatment of Membranous Non-Diphtherial Tonsillitis" by relating the history of a case. (*Brit. Med. Journ.*, Vol. I for 1901, p. 824).

Dr. Eugen Schlesinger of Strassburg, Germany reports two cases of pseudo-membranous conjunctivitis in a Contribution to Diphtheria of the Conjunctiva. (*Muench. Med. Wochensch.*, Vol. XLVIII, p. 101).

From the following reports it would appear that, although attempted some years ago, the practice of administering Antitoxin by the mouth has not increased very much.

Dr. W. Campbell M'Donnell of Stoke-Newington, London, N. England reports on the successful use of diphtheria Antitoxin by the mouth in the case of a fourteen year old girl who had both tonsils covered with a soft white pellicle and with no symptoms but a sore throat and a temperature of 38.2°C. (100.8°F.) He introduces the relation of his case as follows: "It being thought that the antitoxin of diphtheria must for successful exhibition be hypodermically injected the following may be useful." He then relates his case in detail. (*London Lancet*, Vol. I for 1901, p. 400).

Later Dr. J. Lindsay Porteous of Yonkers, N. Y., alluding to the above clinical note states that such administration is not new as he had a patient in April 1897 in which he administered in this way. (*London Lancet*, Vol. I for 1901, p. 971).

Considerable criticism has been made from several different quarters concerning the amount of blood serum which has to be injected to produce the therapeutic effect desired and which is due to the varying amount of Antitoxin units found in such serum. The time has been looked forward to when a more accurate knowledge

would be obtained concerning not only the preparation but the technique of administration and the methods for isolating that part of the serum which contains the therapeutic activity. Undoubtedly investigations are now being undertaken in many quarters upon animal and antitoxic sera.

One of the most important and interesting reports recently made was by Dr. Philip H. Hiss, Jr. and Mr. James P. Atkinson of New York City entitled "Serum-Globulin and Diphtheric Antitoxin.—A Comparative Study of the Amount of Globulin in Normal and Antitoxic Sera, and the Relation of the Globulins to the Antitoxic Bodies." (*Journ. of Exper. Medicine*, Vol. 5, p. 4?).

This was followed by another shortly after by Mr. James P. Atkinson of New York City alone on "The Fractional Precipitation of the Globulin and Albumin of Normal Horse's Serum and Diphtheria Antitoxic Serum, and the Antitoxic Strength of the Precipitates." (*Journ. of Exper. Medicine*, Vol. 5, p. 67).

There was considerable anxiety in Italy early this year from the fact that in three different districts tetanus had followed the injection of Anti-diphtheritic Serum. It is reported that twelve such cases occurred with several deaths. The Government at once took up the matter and promptly ordered the seizure of all the Serum that could be found within their jurisdiction. Even after all was seized that could be discovered cases of tetanus kept on increasing. The explanation of this unfortunate circumstance has not been very definitely stated, but undoubtedly it was due to carelessness in the preparation or putting up of the Serum. Such an unfortunate occurrence undoubtedly will be taken special advantage of by the skeptics and no doubt it will deter those who have been wavering, from making use of this agent for some time to come. A short and interesting abstract of the occurrence and the preliminary investigation taken, is given in the London *Lancet* (Vol. I for 1901, p. 290).

Dr. E. B. Shuttleworth of the Toronto Board of Health reports on his "Results of Experiments with Diphtheria Antitoxin at the Isolation Hospital, Toronto" which give a rather unfavorable showing but apparently the number of units administered was much below what is now generally urged. (*Dominion Med. Monthly*, Vol. 17, p. 7).

Dr. A. Robin of Newark, Delaware has published a paper which he acknowledges to have been rather late in appearing, but it con-

tains many points of interest and value from the Laboratory of the Delaware State Board of Health. This paper is entitled "The Etiology of Diphtheria and the Value of Antitoxine. A Further Criticism on Dr. Herman's Views." (*N. Y. Med. Journ.*, Vol. LXXII, p. 227).

Among the number of skeptics Dr. J. Edward Herman of Brooklyn, N. Y. continues prominent and still writes against its use. In an article on "A Dissection of Some Antitoxine Statistics" he takes occasion to especially criticise Dr. A. Robin and the investigations made by the Harvard Medical Laboratory. He concludes in his characteristic way as follows:

"Antitoxine, the serio-comic of medicine, continues to receive constant attention in the journals and promises to remain a prominent subject for future discussion. This is right, for the profession has never had a more momentous question to settle. In the interest of true medical progress, the fallacies of serum-therapy must be exposed and the mistaken views concerning statistics based on antitoxine treatment corrected; for, if it is not done now, and we blindly follow the bell-wethers of bacteriology, they will lead us into a mire of mistaken conjecture out of which it will take the profession a long time to flounder back to the firm ground of scientific truth." (*N. Y. Med. Journ.*, Vol. LXXII, p. 937).

Dr. A. Robin of Newark, Delaware follows with a short reply and takes occasion to call attention principally to some additional facts brought out by a recent contribution of Dr. Zansajlow of Russia. (*N. Y. Med. Journ.*, Vol. LXXIII, p. 127).

When looking over the whole field of observations during the past year not very much encouragement can be recorded towards the successful treatment of tetanus with Antitoxin, but it is very desirable that as many cases as possible should be put on record for statistical purposes if for no other.

Dr. Arthur E. Lyster of Great Baddow, Chelmsford, England reports a successful case of the Serum treatment of tetanus in a gardener 35 years old who "wounded his thumb with a potting stick, to which soil adhered." (*Brit. Med. Journ.*, Vol. I for 1901, p. 340).

Dr. George F. Woodroffe of Fermoy, Ireland reports a case of tetanus successfully treated with Serum. It was an eleven year old girl who "received a slight abrasion on the left knee from a fall on a garden walk." (*Brit. Med. Journ.*, Vol. I for 1901, p. 395).

Dr. E. Cuthbert Hall of Parramatta, N. S. Wales reports a case of successful administration of Antitoxin in a six year old boy who "trod on a sharp piece of bone." (*Brit. Med. Journ.*, Vol. I for 1901, page 1402).

Dr. John McCaw of Belfast, Ireland reports "A Case of Tetanus Neonatorum successfully Treated with Antitetanus Serum." (*Brit. Med. Journ.*, Vol. I for 1901, p. 763).

Dr. Sydney H. Long of the Norfolk and Norwich Hospital (England) reports "A Case of Acute (Traumatic) Tetanus successfully Treated with Antitetanus Serum." It was the case of a boy thirteen years old. "Five days previously, when putting on his boots, the big toe of the right foot unexpectedly came into contact with three sharp protruding nails at the end of the boot." (*Brit. Med. Journ.*, Vol. II for 1900, p. 1495).

Dr. Harcourt Coates of Salisbury, England realizing that the mortality of traumatic tetanus in children is acknowledged to be so great and the complications so difficult to combat, is anxious to publish a case of traumatic tetanus in a six and a half year old child in which recovery took place after the use of Antitoxin. The child "tripped over a toy cart and fell in the road, sustaining a severe laceration of the third finger of the right hand, breaking the nail." (*Brit. Med. Journ.*, Vol. II for 1900, p. 1780).

Captain E. C. Hayes of the English Royal Artillery illustrated the fact that Antitetanus Serum is as yet on its trial and feels called upon to report a fatal case of traumatic tetanus treated with Antitetanus Serum. It was the case of an artillery man who had suffered from a severe burn on the right hand. (*Brit. Med. Journ.*, Vol. II for 1900, p. 1779).

Dr. George M. Converse of New York City relates a case of a gardener 34 years old who was "suffering from frozen fingers, pain all over the body, and inability to open the mouth." Two days later the man consented to amputation of his diseased fingers. He, however, died from pyemia after having recovered from tetanus. The cause of his death was ascribed to the use of a vial of Serum that was not hermetically sealed and that had been standing on a window sill for several days during which time the temperature rose above the freezing point. Dr. Converse takes pains to conclude as follows: "I would say that this was not an acute case of tetanus; it was a severe subacute form, one in which the patient might have recovered without antitoxin; it is reported, however,

because antitoxin was used." (N. Y. *Med. Record*, Vol. 58, p. 194).

Dr Alexis V. Moschcowitz of New York City has written quite an elaborate review of the modern treatment of tetanus, giving a critical summary of the results of Serumtherapy. The number of intracerebral injections given was 48. Twenty-three of his patients recovered and twenty-five died. (*Annals of Surgery*, Vol. XXXII, pages 219 and 416).

Mr. A. E. Barker of the University College Hospital, England reports a case of tetanus under his care which recovered after a subdural injection of Antitetanic Serum. He claims that the "injection of the serum into the subdural space is simpler and less likely to do harm than the injection into the brain substance, and therefore is to be preferred if it seems to be equal in efficacy." In reviewing the cases on record he states that of the twenty-five cases now on record as having been treated by intracranial injections, fourteen died and eleven recovered. The case he reports is that of a man who fourteen days previously had gone into his yard, slipped down and cut the side of his head. (London *Lancet*, Vol. II for 1900, p. 1420).

Dr. Guido Tizzoni of Bologna, Italy has been carrying on a prolonged comparative examination of the various Antitetanic Serums in which he compares his own preparation with that of Behring and others. He claims that his preparation is not only twice as strong but more complete in its action. The difference in the various preparations evidently became most marked in the severest cases. The statement is made that out of the 36 animals treated with Behring's Serum 15 died, while out of the 45 treated with Tizzoni's Serum only 10 died. The whole investigation is apparently a controversy between Tizzoni and Behring as to the relative value of the Italian and German preparations. (*La Riforma Medica*, Vol. XVII, pages 387, 699, 712, 723, 735, 746 and 759).

Dr. Edmund Homa of Brünn, Austria reports "A Case of Tetanus in Man Cured by Tizzoni's Tetanus-Antitoxin." His case was a nine year old boy whose toes were frozen. Gangrene followed and amputation was found necessary. Tetanic spasms came on in six hours. He had 47 of these attacks inside of 24 hours, yet recovery followed in 4 months. (*Wiener klin. Wochensch.*, Vol. XIII, p. 1108).

Dr. Alexander Lambert of New York City writes on "The Treat-

ment of Tetanus" in which he states he "has been able to collect the records of 52 cases of tetanus in which intracerebral injection has been performed. In these 52 cases there are 19 recoveries and 33 deaths, a mortality of 63.46 per cent.".....

He continues: "When we consider that in the majority of these cases intravenous and subcutaneous injections of antitoxin were also made and compare these statistics with those without intracerebral injections, we are not favorably impressed with this new method.".....

"We must realize that in acute tetanus the chances are against recovery; hence, in all severe wounds in regions where tetanus is not uncommon we must consider the preventive inoculations of antitoxin.".....

"There is no doubt in the writer's mind that many cases of human tetanus could be avoided if these preventive doses of 10 cc. of antitoxic serum were more generally used. Behring recommends very strongly that the antitoxin should be given not later than thirty hours after the first symptom, and that 100 units be given at once."

.....
He concludes as follows: "The local and physiological remedies should never be omitted, for it is only by employing every means in one's power that we can hope to overcome the terrible virulence of the tetanus toxin." (*Med. News*, Vol. LXXVII, p. 12).

Dr. F. Ransom of Marburg, Prussia has been carrying on a series of experiments to clear up certain points in relation to tetanus intoxication and the production of the specific Antitoxin in the living animal body. (*Berlin. klin. Wochensch.*, Vol. XXXVIII, pages 337 and 373).

Dr. A. Calmette, Director of the Pasteur Institute of Lille, France in discussing the prevalence of tetanus in most of the French Colonies in the torrid zone, and particularly on the West Coast of Africa, in Guiana and in the Antilles, offers some advice in the way of reducing the mortality by the prophylactic use of Antitetanic Serum. An abstract of his precautionary measures will be found in the *Epitome of the British Medical Journal* (Vol. II for 1900, p. 39).

Dr. Anton Krokiewicz of Cracow, Austrian Galicia has published a report of two cases of traumatic tetanus treated by hypodermic injections of brain emulsion. The first was that of a physician 33 years old who had cut his right index finger while making an

autopsy on an exhumed body. Twenty hours later tetanic symptoms developed in the right arm. On the eleventh day general tetanic spasms appeared and death seemed imminent. The convalescence was tedious but recovery was complete.

The second case was that of a 35 year old woman who had run a splinter into the right thumb. The tetanic spasms soon involved the muscles of the whole body. On the tenth day, after the usual methods of treatment had failed, an emulsion of one rabbit's brain was injected under the skin of the thorax. Unfortunately the treatment was interfered with by some over-zealous relations compelling the woman "from religious motives" to get up and walk about for about thirty minutes, although the tetanic spasms re-appeared. Early the next morning death occurred suddenly. (*Wien. klin. Wochensch.*, Vol. XIII, p. 727).

Dr. W. Wilms of Leipzig, Germany evidently puts a very low value on Tetanus Antitoxin in human tetanus, for the reason that he has lost four successive cases under this treatment. (*Muench. Med. Wochensch.*, Vol. XLVIII, p. 213).

Drs. Krey and Sarauw of Sonderburg, Island of Alsen, Denmark reported a case of severe tetanus which recovered without any specific treatment whatever. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 1210).

A case was reported at the same time as the above by Dr. Reuter of Sonderburg, Island of Alsen, Denmark, and will be found in the same Journal. After an incubation period of some sixteen days the treatment by Antitetanic Serum was ineffective. The case appeared to be one in which this treatment should have succeeded, for the reason that the Serum was given promptly and the symptoms came on slowly. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 1211).

"The recent newspaper accounts of the successful use of Dr. Calmette's antivenomous serum on a dog in Milford, Pa., are correct. The dog belonged to Dr. Louis de Plasse, of New York, and Dr. de Plasse, who happened to have some of the serum with him, purposely waited until the dog was moribund, and then injected ten cubic centimetres of the serum. The result was the dog's perfect recovery within two hours. The rattlesnake that had bitten the dog was about five feet long. This instance is said to be the first one of the use of the Calmette serum in the United States." (*N. Y. Med. Journ.*, Vol. LXXII, p. 245).

"A Case of Cobra-Poisoning Treated with Calmette's Antiven-

ine" is reported by Mr. W. Hanna and Captain George Lamb of the Research Laboratory, Bombay, India. They state that the record "is of interest inasmuch as the identity of the snake was without doubt. All the symptoms were carefully noted from the beginning, and the only treatment employed was the injection of Calmette's antivenine." (London *Lancet*, Vol. I for 1901, p. 25).

These same gentlemen report later on the "Standardisation of Calmette's Antivenomous Serum with Pure Cobra Venom: the Deterioration of this Serum through keeping in India." They tabulate their results in nine tables. (London *Lancet*, Vol. I for 1901, p. 1661).

Dr. Joseph McFarland of Philadelphia, Pa. writes as follows to the Editor of the *Philadelphia Medical Journal* (Vol. 8, p. 46) :

"In the course of some investigations which I recently conducted with rattle-snake venom, there came into my possession a small quantity of dry venom which had been kept in an ordinary homeopathic phial, carelessly corked since the time of the researches of Mitchell and Reichert, which were made and published in 1886. The venom had therefore been dry for approximately 15 years.

I made a solution of it, and tested its strength upon rabbits and found it approximately as active as venoms which I had collected and dried a few weeks before. This is, I think the oldest dried venom that has been tested and the observation surely proves how very stable the venom is in the dry state."

Dr. Achille Sclavo of Siena, Italy now reports that his previously expressed hope that anthrax in human and domestic animals will be overcome by Serum therapeutics, has been fully realized. He gives in detail the results of his investigations. (*Berlin klin. Wochensch.*, Vol. XXXVIII, pages 481 and 520).

Mr. Frank Tidswell of N. S. Wales has been carrying on a series of tests for nine months past "On Carrasquilla's Serum Treatment of Leprosy" and has met with very discouraging results. (*Inter-colonial Med. Journ. of Australasia*, Vol. V, p. 233).

Col. Henry Cayley, in charge of the Scottish National Red Cross Hospital on the War Frontier in South Africa, publishes "A Note on the Value of Inoculation against Enteric Fever" and calls attention to the fact that Antityphoid inoculation to produce immunity "has attracted much attention, and its importance, especially in the case of soldiers, can hardly be overestimated. The statistics of the army in South Africa will no doubt in due course be pub-

lished, and must have great value, but, as everyone serving out there knows, the returns of patients treated in the hospital there are open to so many sources of error that any conclusions drawn from them will be very unreliable." He, however, thinks the results of the inoculation of members of the staff and the establishment of a hospital will be of sufficient interest to warrant their publication. The little comfort he gives is expressed as follows: "I feel convinced from the cases I saw in the hospital that the attacks of enteric fever were as a rule much milder in the inoculated than in the non-inoculated, and the duration of the disease was much less." (*Brit. Med. Journ.*, Vol. I for 1901, p. 84).

Dr. A. E. Wright, Professor of Pathology in the Army Medical School at Netley, England has carried on a series of experimental trials on the British soldiers serving in India, and his statistics are distinctly in favor of the inoculated soldiers over the uninoculated. They are surely sufficiently favorable to encourage further and more extended trials. The first report published was "A Note on the Results Obtained by the Anti-Typhoid Inoculations in the 15th Hussars, Meerut, India." (London *Lancet*, Vol. I for 1901, p. 399). His second report was a "Note on the Results Obtained by the Anti-Typhoid Inoculations in Egypt and Cyprus during the Year 1900." (London *Lancet*, Vol. I for 1901, p. 1272).

Dr. David Melville, an English surgeon, publishes a "Report on 295 Cases of Enteric Fever, General Hospital, Tin Town, Ladysmith," (South Africa). Of these cases 30 were inoculated, the remaining 265 being unprotected. From the table he gives "it will be observed that the uninoculated cases compare very favorably with the inoculated. The complications were more numerous, the duration of the fever longer, and the death-rate higher in the inoculated." (*Brit. Med. Journ.*, Vol. I for 1901, p. 952).

Drs. Valentin Jez and Franz Kluk-Kluczycki of Vienna, Austria reported having treated 50 cases of typhoid fever with a new so-called specific Antityphoid Extract prepared by Dr. Jez. It is claimed that this is not a Serum but a solution of Antitoxins extracted from the spleen, bone-marrow, central nervous system and thymus gland of rabbits previously immunized by the injection of typhoid bacilli. (*Wien. klin. Wochens.*, Vol. XIV, p. 84).

Dr. E. W. Ainley Walker has reported an important series of observations bearing on the experimental side of the question of the value of Antityphoid Serum. An abstract of his contribution will

be found in the *American Journal of Medical Sciences*. (Vol. CXXII, p. 356).

Practically no encouraging data whatever can be recorded in favor of the extolled yellow fever Serum during the past year as all those observers who undertook to prove or disprove the efficiency of Dr. Caldas' protective Serum returned from the field of observations at Havana, Cuba with negative results.

Dr. Stephano Mircoli, an Italian observer, has followed up the investigations of Prof. E. Maragliano of Genoa, Italy with Antituberculous Serum, alluded to here last year, and is now able to report the results of his clinical and experimental studies. He tabulates in an interesting way the statistics of 2899 cases. He is able to show over 14 per cent. of cures and 50 per cent. of those he "improved." He apologizes for not showing even more favorable results and explains that allowance should be made for the fact that the Serum was not administered sufficiently early, and in the majority of cases was given after all other forms of treatment had failed. He also explains that he made use in all cases of the additional aid of appropriate hygienic and dietetic treatment. He reports other facts of much interest to those who are following up this line of treatment. (*Gaz. degli Osped. e delle Cliniche*, Vol. XXI, p. 1121).

Drs. S. Arloing and Paul Courmont of Lyons, France have reported "On the Value of the Serum Reaction for the Early Diagnosis of Tuberculosis." This takes the form of a comparison between the Serum and Tuberculin treatment. (*Deut. Med. Wochensch.*, Vol. XXVI, p. 766).

Dr. Ernst Romberg of Marburg, Prussia has written on "The Serum Diagnosis of Tuberculosis," describing a much more satisfactory method of diagnosing tuberculosis by Serum than described by the last two observers mentioned. He believes he first established the fact that by means of this Serum a latent tubercular process may be detected. He, however, realizes that as he can report on only 95 cases he cannot speak with as absolute certainty as he would wish." (*Deut. Med. Wochensch.*, Vol. XXVII, pages 273 and 292).

Dr. J. Edward Stubbart of Liberty, N. Y. reports on the "Subsequent Histories of Patients Apparently Cured Under Administration of Antitubercle Serum as an Auxiliary to Climatic Treatment." He summarizes the three classes of cases which he reports on and shows the results on the 82 patients treated. He then con-

cludes as follows: "The reports of cases of tuberculosis treated with antitubercle serum under unfavorable climatic conditions are comparatively meager, but as far as they go the results seem to have been unsatisfactory. Therefore, it would seem as though, instead of a hoped-for specific, we have in antitubercle serum simply another auxiliary to climatic, hygienic, and dietetic treatment. Its comparative greater merits as such an agent in the treatment of cases in the incipient stage seem to place it ahead of all other recognized agents in a large majority of instances. Its greater value may not be so well demonstrated in its immediate effects, as in the fact that, *apparently*, there is established an immunity, the duration of which is as yet not determined, and can only be measured by years of observation." (*Med. News*, Vol. LXXVII, p. 241).

Investigations are still going on with much interest in relation to Anti-streptococcic Serum. In an article on "Puerperal Sepsis" by Dr. R. P. Ranken Lyle of Newcastle-on-Tyne, England, he expresses his skepticism as to the value of this Serum as follows: "I have not said much about the bacteriology of puerperal sepsis because this matter is at present undergoing investigation and definite conclusions have not yet been formed, and I do not think that until they are formed we can say anything definite as to the use or value of antistreptococcic serum. It is, I believe, possible to grow cultures of streptococci from some samples of this serum, and besides, by injecting a patient with a quantity of this serum it is quite possible to produce a condition known as antistreptococcic neuritis—a condition which has been observed not only in this country but also on the Continent and which, if it occurred, would materially prolong the puerperium." (London *Lancet*, Vol. II for 1900, p. 925).

Dr. Gerald S. Walton of Sutton, Surrey County, England reports two cases with the hope that the results will show that this Anti-Streptococcic Serum is a genuine remedial agent and not a mere coincidence. This report is chiefly to answer the criticism made by Dr. Lyle. (London *Lancet*, Vol. II for 1900, p. 1132).

Dr. Lyle then comments on Dr. Walton's cases in the following letter to the Editor of the London *Lancet* (Vol. II for 1900, p. 1236):

"Anti-streptococcic serum is only supposed to be of use in streptococcic infection—that is, in cases where the streptococci have actually got into the circulation. The two cases recorded by Dr. G.

S. Walton in *THE LANCET* of Oct. 20th, p. 1132, are undoubtedly cases of sapræmia, or septic intoxication. With reference to the first case there is no mention of local treatment for the "putrid" lochia, which were apparently the cause of the trouble. I certainly consider that proper and efficient douching would have been more efficacious in this case, and would probably have saved the patient the trouble of a relapse. I am at a loss to understand why Dr. Walton attributes the cure of this case to the anti-streptococcus serum, as large numbers of similar cases recover without any treatment whatsoever."

Dr. M. Blumberg of Leipzig, Germany has made use of Marmorek's Serum in the treatment of twelve cases of puerperal fever by injection. He reports that all his cases were severe ones and feels convinced that the Serum has considerable value, especially when the fever is due to a pure infection with streptococcus. (*Berlin. klin. Wochensch.*, Vol. XXXVIII, pages 132 and 171).

Dr. T. Morton of Kilburn, London, N. W. England reports a case of puerperal septicæmia which he thinks may be worth recording as having been treated with Antistreptococcus Serum. He concludes by stating that he can scarcely doubt that the Serum saved the woman's life. From "the first injection steady improvement set in, as if by magic, and carried her in two or three days into a condition of comparative safety. My only regret is that I did not resort to it earlier." (*Brit. Med. Journ.*, Vol. II for 1900, p. 583).

Dr. J. C. Ryder Richardson of Saxmundham, Suffolk County, England reports a case of puerperal fever in which recovery followed the use of this Serum. He concludes his report as follows: "The injection of antistreptococcus serum was followed by a troublesome attack of urticaria, but with no other bad symptom whatever. Nor do I think that the patient would have been pulled through if it had not been for the serum." (*Brit. Med. Journ.*, Vol. I for 1901, p. 86).

Drs. Herbert E. Waller and Francis R. Gibbs of Bourne End, Bucks, England report a case of puerperal fever successfully treated with Antistreptococcus Serum. These observers state that: "No bacteriological examination of the blood was made, but the symptoms of the onset of the malady were as well marked as in any case which we have been unfortunate enough to witness." (*London Lancet*, Vol. II for 1900, p. 1873).

Dr. Frank A. Higgins of Boston, Mass. reports his observations

on five cases of puerperal sepsis while using Antistreptococcus Serum. He concludes as follows:

"I believe that the serum treatment has no place in the routine treatment of puerperal sepsis, that it should be used only in desperate cases after failure to obtain improvement by other and usually more efficient methods, and that if no improvement is shown after use for two or at most three days and the injection of 40 cubic centimetres to 60 cubic centimetres, it should be discontinued. I believe that its use is not free from danger, that it usually lowers the pulse and temperature, but at the same time it has a correspondingly depressing effect upon the patient, and that it has not apparently lowered the mortality of the disease." (*Boston Med. & Surg. Journ.*, Vol. CXLIV, p. 422).

Dr. A. J. Primrose of New York City reports two cases of puerperal septic infection treated by this Serum in which prompt subsidence of septic symptoms followed. (*N. Y. Med. Journ.*, Vol. LXXIII, p. 895).

Dr. D. H. Galloway of Chicago, Ills. reports a case in which Antistreptococcus Serum was used with apparently remarkable results, in which scarlet fever was present and the glands on both sides of the neck became so enlarged that upon consultation it was discussed whether the tumor which had developed should be operated upon as suffocation threatened. An operation was disapproved of and the Serum was tried. Dr. Galloway concludes as follows:

"Unfortunately we have no positive proof that the swelling in the neck was a streptococcic abscess. If it was, there can be little doubt that the antistreptococcic serum saved the patient's life, for neither of the consultants believed she would survive either with or without an operation." (*Phila. Med. Journ.*, Vol. 6, p. 220).

Two cases of suppurative appendicitis with septicæmia, coming under the care of Mr. W. Gifford Nash of Bedford County Hospital, have been reported. One patient recovered under the use of Antistreptococcus Serum. (*London Lancet*, Vol. I for 1901, p. 1081).

Dr. J. Michell Clarke of Clifton, Bristol, England reports "A Case of Ulcerative Endocarditis, with Recovery under the Use of Anti-Streptococcic Serum." (*London Lancet*, Vol. II for 1900, p. 168).

Dr. Thompson Campbell of Bridge-of-Weir, N. B. reports a case under his observation in which Antistreptococcus Serum was prescribed for pulmonary tuberculosis. He was not very favorably impressed for he concludes as follows:

"On the whole I should not feel warranted, from my experience in this case, in again resorting to the use of the serum, as phthisical patients in whose case pyrexia has been a feature for a considerable time are in a somewhat critical condition, and can ill afford to be subjected to a form of treatment which causes an exaggeration of the febrile state." (*Brit. Med. Journ.*, Vol. II for 1900, p. 1158).

Dr. F. J. Harvey Bateman at Hertford British Hospital in Paris, France reports three cases of patients suffering from septic pneumonia in which the Antistreptococcus Serum was employed. Two of the patients recovered and one died—the latter suddenly from heart-failure. (*Edinburgh Med. Journ.*, Vol. VIII, p. 49).

Dr. H. Leslie Jones of Manchester, England reports the successful treatment of erysipelas by Antistreptococcus Serum in a single case under his observation in which recovery was rapid and uninterrupted. (*Brit. Med. Journ.*, Vol. II for 1900, p. 748).

Dr. D. Macmillan of Prestwich, England publishes a few notes on the effect of Antistreptococcus Serum in a severe case of erysipelas of the face and scalp. (*Brit. Med. Journ.*, Vol. I for 1901, p. 575).

Dr. J. W. Gill of Liskeard, England records a case of very severe erysipelas in a lady aged 71 treated with Antistreptococcus Serum in which he states that: "Skilled nursing with, I believe, the serum treatment saved her life, as after each injection the temperature became reduced." (*Brit. Med. Journ.*, Vol. I for 1901, p. 1079).

Dr. Carl E. Elfstrom of Brooklyn, N. Y. read a paper before the Medical Society of the County of Kings on "A Form of Serum Treatment of Pneumonia." The experiments do not appear to have been conclusive, and therefore he hopes that they will be continued. (*Brooklyn Med. Journ.*, Vol. XIV, p. 603).

Dr. William H. Smith of Boston, Mass. read a paper before the Mass. Medical Society on "Serum Therapy in Pneumonia" and concludes as follows: "Experimentally, antipneumococcus serum seems to be of value. Practically, that it is of any great value does not at present seem to have been demonstrated, as the reported number of cases are too few; the series of any one observer too small. What the future of the serum therapy in pneumonia will be it is too early to say." (*Boston Med. & Surg. Journ.*, Vol. CXLIII, p. 340).

Dr. Edwin Rosenthal of Philadelphia, Pa. read a paper before the Penn. State Medical Society on September 18th, 1900 on "The

Treatment of Pneumonia with Antipneumococcic Serum." (*Med. News*, Vol. LXXVII, p. 851).

At a meeting of the Medical Society of Hospitals in Paris, France on January 22nd last Dr. Ch. Talamon reported his results after treating 50 cases of pneumonia by the injection of Antidiphtheritic Serum. His mortality was 14 per cent. whereas formerly in one of the hospitals the mortality had been at least 24 per cent. He gives the statistics of his cases very carefully and lays down a series of rules to be followed, and if they are carried out he claims it is not only possible to shorten the duration of pneumonia but to at least reduce the chances of complications, and in some cases to suppress them. He believes the mortality can be reduced to about 10 per cent. (*Gaz. hebdom. de Méd. et de Chirurg.*, Vol. 48, p. 196).

Dr. Ludovic Raynaud of Marseilles, France has reported the case of a 67 year old woman attacked with severe double pneumonia, in whom Antidiphtheritic Serum was injected and she was considered out of danger on the second day. As much as 40 Cc. of the Serum a day produced no unusual effects. (*La Médecine Moderne*, Vol. 12, p. 99).

Dr. V. Negel of Jassy, Roumania claims to have "cured" a case of lobar pneumonia in a man 58 years old by injecting 20 Cc. of Antidiphtheritic Serum. (*La Médecine Moderne*, Vol. 12, p. 140).

Dr. G. E. Tyler of Denver, Colo. has written on "Antipneumococcic Serum Treatment of Pneumonia, with Report of Cases." He concludes as follows:

"It is exceedingly doubtful whether antipneumonic serum has any effect on the condition of the affected lung. The exudate is extracirculatory, the vascular supply being cut off. It is therefore almost inconceivable that the serum should have any effect on it, except possibly to prevent the involvement of new areas. But if we have a serum which prevents and combats toxemia, as I believe we have, that is a great advance.

Several problems of much importance yet remain to be solved. The standardization of antipneumonic serum, so essential to accurate dosage, the easy cultivation of the pneumococcus in such a way as to prevent loss of virulence, the concentration of the serum to permit smaller dosage and the reduction in cost of production so essential to its popular use, all these are yet in the future." (*Journ. Amer. Med. Assoc.*, Vol. XXXVI, p. 1540).

Dr. J. C. Wilson of Philadelphia, Pa. has contributed an article on "Serumtherapy in Croupous Pneumonia" in which after going over thoroughly the cases he treated has to finally close with the statement that: "No conclusions as to the effect of a plan of treatment can, however, be drawn from a limited series of cases." (*Journ. Amer. Med. Assoc.*, Vol. XXXV, p. 595).

In the London *Lancet* (Vol. II for 1900, p. 1454) an abstract is given of what Dr. A. Calmette of Lille, France has stated in relation to epidemics of plague and the Anti-plague Serum-therapy which will be of interest to those who are following up this line of treatment.

Mr. C. Balfour Stewart of Liverpool, England has written "On the Methods of Making Antitoxic and Preventive Fluids, with Special Reference to those of Plague." (*Indian Med. Record*, Vol. XX, p. 55).

Drs. E. Leclainche and Ch. Morel, two French observers, have been experimenting with the object of securing a preventive and curative Serum for malignant cedema. They used the ass for their experiments. (*Annales de l'Inst. Pasteur*, Vol. XV, p. 1).

Further experimentation has been carried on in some quarters with Diphtheria Antitoxin in cases of scarlet fever, but little has been accomplished yet, although one observer pronounces that it is "a sovereign remedy."

Malaria is another one of those affections in which Serum injections have been tried to a limited extent and definite reports are promised from certain reliable sources.

Antistreptococcic Serum has been injected in cases of acute cellulitis during the past year, but nothing very definite can yet be reported.

Antitussin (Di-Fluor-Di-Phenyl) still has occasional reports made upon its use—confined wholly to the treatment of pertussis.

Dr. Frederick T. Wright of Calumet, Mich. has evidently been impressed with the report of Dr. Max Heim of Düsseldorf, Rhenish Prussia made last year and alluded to here, for he writes to the Editor of the *Journal of the American Medical Association* (Vol. XXXV, p. 894) as follows:

"In the *Berliner Klinische Wochenschrift* for Dec. 11, 1899, appeared an article by Dr. Max Heim, of Düsseldorf, in which he recounted such successful results in the treatment of pertussis with a new remedy, "antitussin," that I was impelled to obtain a small

amount of the remedy for trial. The results of this trial are, I think, sufficiently interesting to be worthy the notice of those who may not have seen Dr. Heim's original article or any abstract of it. It is an ointment, consisting of 5 parts difluordiphenyl, 10 parts of vaselin and 85 parts of lanolin, and is administered by inunction. The back, chest or abdomen of the patient is thoroughly washed with warm soap and water and rubbed dry with a rough towel. On the skin thus prepared the ointment is applied, a small portion at a time, and rubbed in until the greasy feeling has disappeared. This usually requires from twenty minutes to half an hour. The amount applied at one time varies with the age of the patient; for a child a year old I used a quantity of the ointment as large as the end of my thumb, and for one 5 years old about twice as much. I think, however, that slightly larger amounts would give still better results. I have treated six cases in all, and have been furnished with the data of one other, which was treated by my associate, Dr. Bourland. These ranged in age from four months to six years. In all of them the treatment was not commenced until the paroxysmal stage had been reached, and in most of them this had proceeded about two weeks. In general, the cases were treated in the manner above described daily for the first week, and thereafter every other day until the conclusion of the case. In all an immediate improvement was noted from the very first application of the ointment. The number of the paroxysms rapidly diminished. In four of the cases in which an accurate count was kept of their number, they diminished as follows: In Case No. 1, from 16 paroxysms on the first day of treatment to none on the thirteenth; in Case No. 2, from 27 on the first day to none on the thirteenth; in Case No. 3, from 18 on the first day to none on the sixteenth; in Case No. 4, from 25 on the first day to none on the fifteenth. In another case in which very severe paroxysms, though few in number, had existed for over a week, there was not a single severe additional attack after the first application of the remedy, and the attacks entirely disappeared after the fourth application. In one of the cases there was a relapse about a week after a cure seemed to have been effected.

The severity of the paroxysms, as well as the number, rapidly diminished from the time of beginning the treatment. They were neither so long nor so exhausting; the vomiting which usually followed them became less frequent and the children improved in ap-

petite and in getting their normal amount of sleep. At night the greatest improvement seemed to be manifested. In fact, from the beginning of treatment, the patients all steadily improved, and progressed to a complete recovery, save in the one case of relapse mentioned. They were receiving no other medication during the time of this treatment. The patients all seemed to take kindly to the method of medication, and the younger babies in particular seemed to get a great deal of pleasure out of the process of inunction. In no case were any unfavorable symptoms, visceral or otherwise, observed which might have been due to the use of the remedy.

In a disease like pertussis, for which so many remedies have been proposed, and most of them untrustworthy, any one which approaches the nature of a specific would be given a hearty welcome. While my limited experience with the remedy does not warrant my making any too extravagant statements concerning it, I do feel justified in expressing the belief that it is of great value in pertussis, and well worthy of a trial by any who are called on to treat this disease."

In contrast to the above, Dr. Paul Krause of Hamburg-Eppendorf, Germany writes on "The Doubtful Value of Antitussin as a Remedy Against Whooping-cough." He employed it in 15 cases and compares his results with those of 3 other series of cases. One with Bromoform, one with Quinine and the third with no medication whatever. He gives four tables of his results showing the number of daily paroxysms, hemorrhage from the nose, vomiting and other symptoms. He claims that his cases were not picked ones and therefore the comparisons are fair. He infers that the fluorine present produces unpleasant collateral effects on the mucous membrane.

Eight of the children showed obstinate ulceration in those places where this agent was applied locally. He concludes therefore that there is little evidence that it has any special effect and does not advise its use. (*Deut. Med. Wochensch.*, Vol. XXVI, p. 542).

Argonin—the bactericide formed by mixing Silver Nitrate with a combination of Sodium and Casein—has not received any prominent attention in the medical literature of the year.

From an experience with it as reported by Dr. Nelson W. Wilson of Buffalo, N. Y., it seems rather strange that more observers have not reported on its use. Dr. Wilson lays considerable stress on the preparation of the solution to be used and therefore he gives

particular directions. After describing the most satisfactory method, he concludes as follows:

"Prepared either way and used properly and intelligently, argonin will produce remarkably satisfactory results in almost every case, and in some the outcome will be little short of miraculous. And when I say intelligently, I mean that the questions of hygiene, diet and alcohol must receive careful attention and the patient subjected to exact orders concerning them. With this always in mind and followed out and argonin used properly, cures will be effected which will seem as brilliant to the observer as satisfactory to the patient." (*Buffalo Med. Journ.*, Vol. LVI, p. 408).

Aspirin has taken a somewhat more prominent position during the past year, particularly in the treatment of rheumatic affections. It is generally acknowledged to be preferable to the salicylates.

Dr. P. Zimmermann of the Augusta-Hospital, Berlin, Germany writes a short note entitled "A Contribution to the Therapeutics of Aspirin" in which he reports having used it in 30 consecutive cases affected with either rheumatic tendencies or neuralgia. There were several cases of nephritis and one of exudative pleuritis. His daily doses varied from 2.5 to 4 grammes (39 to 61.7 grains) It produced promptly pronounced diaphoresis and a fall in temperature. His conclusions are that it quite supplants the salicylates. (*Berlin. klin. Wochensch.*, Vol. XXXVII, p. 604).

Dr. Alfred Brunner of Triest, Austria-Hungary writes "On the Therapeutic Value of Aspirin" in which he extols its use as an antipyretic and analgesic in subacute and chronic articular rheumatism. He advises its combination with caffein in cases of acute articular rheumatism to counteract any adverse effect on the heart. He claims that 1 gramme (15.4 grains) may be given in cases of neuritis and neuralgia with the certainty of relieving the pain. In sciatica, pleuritis and gout it acts effectively as an analgesic. He never observed tinnitus, vertigo or gastric pain when using it. (*Klinisch-therap. Wochensch.*, Vol. VII, p. 1378).

Dr. Karl Manasse of Wurtemberg, Germany gives a summary of sixteen cases of rheumatic affections treated with this agent, all of which were markedly successful. (*Therap. Monats.*, Vol. XIV, p. 594).

Dr. Louis Renon of Paris, France reported at a meeting of the Paris Medical Society of Hospitals on October 19th last that he had made use of this agent in forty-three cases, obtaining his best results in acute rheumatism. His results were only half satisfactory

in cases of subacute rheumatism. He particularly warns his fellow practitioners against using it in tuberculosis, chiefly on account of its pronounced diaphoretic properties thus producing weakness. In the discussion which followed the reading of his report, Dr. J. Comby mentioned that he had made use of it successfully in so-called pseudo-rheumatism of childhood. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 1646).

Dr. A. Nusch of Nuremberg, Bavaria reports on the therapeutic value of Heroin and Aspirin. He has employed Aspirin in over 500 cases and claims that it has every one of the beneficial properties of the salicylates without their disadvantages. He rarely noticed tinnitus or headache. He adopts the plan of grading his dose in the following way: On the first day he repeats a dose of 1 gramme (15.4 grains) five times, on the second day four times, and so on until it is given twice a day. If still called for he repeats the same course. His best results were obtained in cases of acute and chronic rheumatism, showing marked antipyretic properties even in severe cases of pulmonary tuberculosis. He finds it of little use in cases of gout. (*Muench. Med. Wochensch.*, Vol. XLVIII, p. 457).

Dr. Franz Tribold of Abbazia-Konigswart, Bohemia recommends this agent in neuralgic affections, and recommends that it be given on an empty stomach and followed up immediately by 4 Cc. (64.9 minims) of some simple acid mineral water. (*Wien. klin. Rundschau*, Vol. XIV, p. 717). Dr. Ludwig Müller of Vienna, Austria also reports "On Aspirin." (*Wien. klin. Rundschau*, Vol. XIV, p. 999).

Dr. M. A. Auerbach of New York City gives some "Clinical Data on the Treatment of Rheumatism" in which he reports having treated six cases with Aspirin. He accompanies its administration with a supporting treatment. (*Cincinnati Lancet-Clinic*, Vol. XLV, p. 608).

Dr. A. Dengel of Berlin, Germany contributes a short article on his "Experience with Aspirin in Private Practice." (*Berlin. klin. Wochensch.*, Vol. XXXVII, p. 604).

Dr. A. Toepfer of Jersey City, N. J. has made use of this agent in acute rheumatism and other rheumatic tendencies as well as in quite a list of other affections, including measles, malaria, intestinal colic, hemicrania, lumbago, sciatica, spinal irritation and uterine carcinoma. He finds it more or less efficient in his whole list of affections and quite satisfactory in some. He rarely noticed

any tinnitus, vertigo or headache. (*N. Y. medicin. Monatsschrift*, Vol. XIII, p. 24).

Dr. Fritz Valentin of Berlin, Germany reports on his use of this agent in sixty cases of acute and chronic articular rheumatism. He noticed only a few disagreeable sequelæ but cannot report that his results are especially good. Poor results followed in cases of muscular rheumatism, and some of his best results occurred in cases of supra-orbital and intercostal neuralgia. (*Deut. Aerzte-Zeitung*, Vol. for 1900, p. 454).

Bacillol is the name given to a new antiseptic whose composition cannot yet be reported. The only mention of it during the past year of any prominence is an article "On Bacillol" by Dr. Franz Werner of Vienna, Austria. He reports simply that it is readily soluble in water, has a slight creosote odor and is a very powerful antiseptic, destroying the anthrax bacilli in from one to five minutes in $1\frac{1}{2}$ per cent. solution, and destroying the glanders bacilli in five minutes in $\frac{1}{2}$ per cent. solution. He has observed no toxicological properties and no local irritating effects. It can be purchased for about half the price of Lysol, and comparing the strength of solutions used, at one-tenth the price of Carbolic Acid. (*Wien. klin. Rundschau*, Vol. XV, p. 73). This information being rather meagre and no clinical reports having been found, little practical use can be made of the above.

Bromipin—the substitute for the alkaloid and salts of Bromine—is apparently still in use in Europe, but no reports come from it in this country. Its exact composition and preparation is still in doubt. Nothing further has been stated than that it is a stable combination of bromine and sesame oil having an oleaginous taste.

Dr. Wilhelm Lorenz of Ybbs, Austria reports on "The Treatment of Epilepsy with Bromipin." He employed it in thirty-four cases of pronounced epilepsy. In eleven the attacks grew worse and in the remaining twenty-three they remained the same. The number of attacks were diminished in thirteen cases. In three they were only temporarily less frequent. The patients apparently gained in weight and improved in their general condition, and he claims that his results are far better than from the usual epileptic treatment. The daily dose varied from 15 to 24 Cc. (about 4 to 6 fluidrachms) of a 10 per cent. aqueous solution. (*Wien. klin. Wochens.*, Vol. XIII, p. 1019).

Dr. R. Verhoogen of Brussels, Belgium is quite emphatic in his recommendation as to the use of this agent in the treatment of epilepsy. (*Klin.-therap. Wochensch.*, Vol. VII, p. 1558).

Bromocoll is the name given to a combination of Bromine, Tannin and Gelatin which is claimed to contain 20 per cent. of Bromine organically combined. It is described as a very light yellow powder, odorless and tasteless, sparingly soluble in acid solutions but readily soluble in alkaline solutions. The combination was thought of as a substitute for the alkaline bromides in all cases where the usual bromides are indicated.

No clinical reports have yet appeared.

Bromoform has not received very marked attention during the past year, undoubtedly due to the fact that it has lost much of the reputation claimed for it in the treatment of pertussis, and also on account of the still too common poisoning cases.

Calcium Hydrosulphide—often called Sulphuretted Lime—has been recognized as an efficient depilatory. It was first recommended by Prof. Raybaud of Marseilles, France, but made in a special way it has gone under the name of Martin's Depilatory. Under this name it is made according to the following formula: Three parts of water are added to two parts of slaked lime, through which mixture is passed sulphuretted hydrogen gas as long as it is absorbed. The result is a soft mass with a slight odor of sulphuretted hydrogen. It will separate on standing into two portions—the water, of course, being on top. These portions are to be mixed whenever it is to be used. A very few minutes application of this mixture is sufficient to remove the hair. Dr. Charles Greene Cumston of Boston, Mass. has recently called attention to the efficiency of this agent and it has been more generally tried within the past few months. All surgeons will at once appreciate the fact that some efficient depilatory is of much value to remove the hair from various fields of operation where the razor cannot be efficiently used.

Some few experiments have been tried as to the keeping qualities of this mass. When kept in large bulk and used from the same container repeatedly its efficiency does not last as long as when put up in smaller containers, one of which is opened when needed. By actual observation the mass from the large container was effective for two months but in the third month it failed. When put up in smaller containers it was found to be efficient for five months.

Several attempts have been made to add essential oils and other concentrated odoriferous principles to mask the sulphuretted hydrogen odor, but such additions seem to tend towards more rapid deterioration and therefore it is advised to add nothing to mask the odor. Dr. Cumston thus writes about the application of this mixture:

"The way of employing this paste is very simple. With a spatula or spoon-handle a thin layer is spread on the parts from which the hair is to be removed. If the hair is very long it may be clipped off with the scissors first, but this precaution is not necessary if one is careful to see that the paste is applied down to the skin. The paste is left on for five minutes and then with tepid water and a towel it is removed by gentle friction. The skin will then be found to be completely free from any trace of hair and better shaven than by the cleverest barber.

The paste is absolutely devoid of any irritating properties to the skin, is painless and leaves no trace behind. The hair grows again perfectly, just as when it has been removed with the razor. In scalp wounds, in genito-urinary, rectal and gynecic surgery it is much better than the razor, as a perfectly smooth skin results." (*Boston Med. & Surg. Journ.*, Vol. CXLIII, p. 275).

Camphor is still the largest product exported from the Island of Formosa and it has practically rejuvenated that region. The tree called the Camphor-Laurel grows luxuriantly there to a lofty height and often to a circumference of twenty feet. It grows so rapidly that the forests are renewed more frequently than is the case with most trees. The industry of collecting the Camphor by distillation is now a very large one and as more civilized expedients are gradually introduced, the yield will be very much increased and the price of the product much reduced, if the monopoly is not too exacting. It may be interesting to some to repeat here the following account of this industry:

"On a loam-built oven, some four feet high, for which wood is used as fuel, one or more iron vessels are placed, which are filled with water. On each of these vessels is placed a tubular wooden cylinder, about 5 feet high, the bottom of which is perforated so as to admit the water vapor. These cylinders are filled with pieces of camphor wood, about $1\frac{1}{4}$ inches long by $\frac{3}{16}$ inches thick, fed in from the top; they are then covered over and plastered all round with loam to render them air-tight. The camphor-laden fumes are then

drawn through a bamboo tube, about 11 feet long, which is fixed on the upper part of the cylinder, into a box-shaped, air-tight receiver, some 6 feet high, placed in running water, in which the fumes are condensed in crystal form. Another tube, slightly inclined downward, and placed at a somewhat higher elevation, admits water drop by drop into the vessel, to replace the evaporating liquid. This is essential, for the operation of distilling the pieces of wood is continued for twenty-four hours. It takes about a month to fill the receiver.

It is doubtful whether another example can be found in the history of the world, where the product of a plant has had such a far-reaching influence on the destinies of the country as in the case of the camphor on Formosa. For centuries the greed of men has been attracted to the virgin forests situated in the interior of the island, for the sake of their lofty, royal trees, constantly meeting with tenacious opposition from the exasperated savages. As long ago as the beginning of the eighteenth century the Chinese government, which at that time only troubled about the western and northern part of the island, but not about the eastern, endeavored, in order to cover at least part of the expenses of their administration, to turn the camphor forests to account by introducing a camphor monopoly, the evasion of which was punished with brutal severity. Whoever at that time cut down a camphor tree without permission, paid for it with his life, if detected. In the year 1720, no less than 200 persons were executed for this offence. This exceeding severity brought about serious insurrections, and, as a consequence, the production of camphor was declared free, but, on the other hand, the trade in the article turned into a monopoly. From that time every Chinese was allowed to enter the forests at his own risk and on his own account, and left free to attain his object either by force or cunning. The barbarous behavior of the Chinese Hakkas towards the aborigines, all their sanguinary feuds, were not noticed by the Chinese government, or rather were tacitly approved.

These conditions lasted for a century and a half. They were only partly brought to an end by the revocation of the monopoly in 1868. As everybody knows, four of the Formosa ports were opened to Europeans in the year 1860. The mandarins, who had appropriated the camphor trade as a very remunerative business, sold the picul at 16 yen, whilst they only paid the producers at the rate of 6 yen per picul. The Europeans, however, in order not to

let the whole profit go into the pockets of the mandarins, evaded the monopoly (which was not revoked until 1868), and bought direct from the producers, maintaining that, in view of the commercial treaties made at Peking, they were in no way bound by the monopoly of the mandarins. These proceedings all at once changed the position of the Europeans. So long as the latter gave the mandarins an opportunity to make a handsome profit, they were exceedingly welcome, and were encouraged in every way. But now the tables were turned; hatred of and hostility to the Europeans were openly preached, and all sorts of difficulties placed in their way. These hostile proceedings induced the British Consul, Mr. Gibson, in 1868, to summon to Tainanfu a squadron which was then manœuvring in Chinese waters. This alarmed the Chinese governor so much, that he immediately promised to prohibit with the utmost severity every display of hostility towards the foreigners, and to abolish the camphor monopoly. The Taitos (district superintendents), who had chiefly opposed the Europeans, were removed, and peace smiled once more on the latter.

The transportation of the camphor from the stills to the nearest port of shipment is thus described: Hosts of male and female camphor-scented coolies (there is very little difference in their appearance, for both men and women are dressed almost exactly alike), wearing hats of bamboo bark, trotted along in single file, the first indication that we were approaching the camphor districts. The coolies came from a camphor still; they carried the camphor or camphor oil partly on poles, partly in tin cans, boxes or bags, to the nearest port or river for shipment. This groaning, perspiring mass of humanity, trotting along in a steady jog trot, the bamboo poles, deflected under the load, beating time, diffused once more a stupefying odor. The carriers always remain anxiously together, forming caravans, in order to be secure against sudden attacks. They remind one of the fact that those parts of the country are near, where fights between the aborigines and the greedy Chinese colonists, though only on a small scale, are matters of daily occurrence." (*Pharm. Era*, Vol. XXIV, p. 619).

There have been repeated attempts to make Camphor artificially. The latest report comes in the form of a patent secured in Europe for the manufacture of Camphor by heating together under certain conditions turpentine and oxalic acid. Very meagre reports only are obtainable as yet.

At the fiftieth annual meeting of the Penn. State Medical Society held in Wilkes-Barre in the latter part of September 1900, there was an interesting discussion following the symposium on typhoid fever in which Dr. Alfred Stengel of Philadelphia, Pa. reported most excellent results from the use of Camphor. He stated that in extreme cases of typhoid fever Camphor was unequalled. In his practice he used it hypodermically in doses of 65 milligrammes (1 grain) dissolved in 925 Cc. (15 minims) of olive oil. (*Med. News*, Vol. LXXVII, p: 511).

Dr. T. B. Greenley of Meadow Lawn, Ky. reports the case of a 78 year old lady who took an unknown quantity of Spirit of Camphor which produced local paralysis and after an hour caused her death. (*The Amer. Practitioner and News*, Vol. XXX, p. 62).

Chinosol (the Potassium Salt of a compound of Oxy-Chinolin and Sulphuric Acid, a fine yellow crystalline powder)—the anti-septic, disinfectant, deodorizer and bactericide—is still being used, especially in Europe, its chief claims being its ready solubility, lack of odor and irritating properties.

Dr. R. Kossmann of Berlin, Germany continues to carry on his observations with this agent. An allusion was made here last year to his recommendation to practically legalize its use in midwifery practice. He now would recommend the following steps to be taken on each occasion. He advises first a cleansing of the hands for three minutes with a particular brand of soap called Marmor's—first without water and then with it. Next the hands are to be washed for seven minutes with a 20 per cent. solution of Chinosol. Then after drying them they are to be placed in Chirol (a dilute gum varnish). Finally allow them to dry three minutes. (*Centralbl. für Gynäkologie*, Vol. 24, p. 1089).

Dr. H. Tjaden differs from the above observer in that he does not believe in legalizing the use of such an agent but rather advises a thorough scrubbing of the hands with the means usually at hand, and that training in external examinations is to be perfected. He doubts whether this agent is any better as an antiseptic than those now in use. (*Centralbl. für Gynäkologie*, Vol. 24, p. 848).

Dr. R. Schaeffer of Berlin, Germany also criticises Dr. Kossmann's use of Chirol. He details six experiments showing the inefficiency of this agent. (*Centralbl. für Chirurg.*, Vol. 28, p. 89).

It may be well to explain here that Chirol is a very expensive varnish made by dissolving several gums like copal, damar and mastic

in ether, producing a thin varnish which is used as a coating for the hands during an operation as a prevention against infection. It has practically gone out of use, at least in this country.

Chloralose (Anhydro-Glyco-Chloral)—the hypnotic—has not been one of those newer articles which has completely died out after a short lifetime, but it is however infrequently commented upon individually now-a-days.

During the past year Dr. James Tyson of Philadelphia, Pa. has had a sufficiently favorable experience with it to make a report on its use in nine cases—a clinical history of which he relates. He closes as follows:

"The conclusions which I think are justified from the above cases are the following: 1. Chloralose is a prompt and safe hypnotic, more prompt in its action than any drug except morphin. 2. From a large experience with chloralose, I am satisfied that it is more prompt in its action than chloral and efficient in much smaller doses than the latter drug. 3. Its effects occasionally include involuntary actions, which, while surprising and even fantastic in some of their exhibitions, are, nevertheless, harmless. 4. The drug needs to be further studied. 5. The maximum dose is 5 grains in a capsule, which may have to be repeated in not less than an hour; it should be tried also in smaller doses, because it is reasonable to believe that the unfavorable effects may be thus averted while the hypnotic action may be continued." (*Journ. Amer. Med. Assoc.*, Vol. XXXVI, p. 931).

A case of poisoning from a small dose of this agent is recorded by Dr. Edward H. Douty of Davos Platz, Switzerland. (*London Lancet*, Vol. II for 1900, p. 1803).

Chloretone (Tri-Chlor-Butyl Alcohol)—the hypnotic and anæsthetic—is still being studied and has a somewhat varied history. Some observers are enthusiastic over it, others again report rather objectionable features.

Dr. Albert E. Brownrigg of Concord, N. H. reporting on "The Clinical Value of Some of the Newer Hypnotics" concludes as follows:

"The duration of the sleep was from one-half an hour to twelve hours, with an average duration of about four and one-half hours. Even after awakening there was a tendency to anesthesia and drowsiness for some hours, though no permanent untoward effects were ever noticed. The pulse was apt to be somewhat depressed both in

volume and frequency, though often no change could be noted by the finger even after repeated doses. A few of the patients soon learned to dislike this preparation, both on account of its taste and also from the disagreeable after-sensations, which were rather hard to describe but uniformly disagreeable. Those who usually voluntarily chose hypnotics almost invariably preferred dormiol or hedonal to this preparation, on account of these subjective sensations." (*Boston Med. & Surg. Journ.*, Vol. CXLV, p. 61).

Dr. J. C. Dunn of Pittsburg, Pa. has contributed some "Notes on Chloretone" in which he sums up his use of this agent as follows :

"I believe that its use as a local anæsthetic is worse than useless.

As a hypnotic it cannot be relied on where a prompt effect is desired. This defect may be overcome, to some extent, by administering it in alcoholic solution.

Its field of greatest usefulness and its classification, is more likely to be as an antispasmodic, safe and powerful, than as a hypnotic." (*Penn. Med. Journ.*, Vol. IV, p. 414).

Dr. E. M. Houghton of Detroit, Mich. found that the above report of Dr. Dunn differed "so radically from others previously published, especially as regards the local anæsthetic action of the drug, that I desire to review the subject from the laboratory and clinical points of view." (*Penn. Med. Journ.*, Vol. IV, p. 765).

Dr. E. R. Rasely of Vanderbilt, Pa. reports that he has used this agent as a substitute for cocaine in hundreds of minor operations. He believes that it could be substituted with advantage for cocaine in subarachnoid anæsthesia. (*Inter. Journ. of Surgery*, Vol. XIV, p. 124).

Dr. William Ridgely Stone of New York City makes use of this agent as an aid in sub-arachnoidean operations. He reports very gratifying results when used as an ante-operative hypnotic. In spinal anæsthesia he combines it with cocaine and obtains much better results than with any drug he has previously used. (*Medicine*, Vol. 7, p. 366).

Dr. Freeman F. Ward of New York City prefers this agent as a general hypnotic to trional or sulphonal. He mentions one particular case of pertussis in a four year old child in which the use of this agent brought relief of the paroxysm and quiet sleep. (*Medicine*, Vol. 6, p. 642).

Dr. J. Percy Wade of Catonsville, Maryland reports "On the Use of a New, Safe and Efficient Hypnotic in the Treatment of the

Insane: Chloretone." He reports eighteen cases of various conditions in which it was used with advantage. (*Journ. of Nervous and Mental Disease*, Vol. XXVII, p. 447).

Dr. E. Hollingsworth Sizer of Philadelphia, Pa., reports on "Chloretone in Dusting Powders." He relates thirty-two cases. (*Ther. Gaz.*, Vol. XXV, p. 150).

Dr. A. A. Stevens of Philadelphia, Pa. makes "A Clinical Report on the Use of Chloretone as a Hypnotic" and concludes that it "is especially adapted for use in cases of insomnia unattended with pain, high fever, or pronounced nervous excitement." (*N. Y. Med. Journ.*, Vol. LXXIII, p. 327).

The *American Journal of Insanity* (Vol. LVII, p. 712) feels it necessary to call attention to the experience which has been had with it in many physiological laboratories for it appears to be somewhat at variance with the observed clinical use. They rather class the agent as a dangerous narcotic, often more dangerous than chloral hydrate. As it is being tried more generally in institutions for the insane, the *Journal of Insanity* would urge the greatest caution in its employment for several instances of untoward effects have already occurred.

Dr. Louis J. Hirschman of Detroit, Mich. speaks very highly of the use of this agent in preventing the nausea and vomiting of anaesthesia, and has written a paper for the purpose of urging its use "for the relief of one of the most distressing conditions connected with surgical operations." (*N. Y. Med. Journ.*, Vol. LXXII, p. 1049).

Cinnamon in the treatment of influenza has apparently been in continued use for two years past, for Dr. Joseph Carne Ross of Withington, Manchester, England has again confirmed his previous observations of its satisfactory use. This line of treatment was alluded to here two years ago. Dr. Ross now writes:

"In March, 1898, a communication by me was published in the *BRITISH MEDICAL JOURNAL* on my experience of the value of cinnamon in influenza during the previous five or six years; and a further experience, during the three years that have since elapsed, has strengthened my conviction that, if influenza is treated with cinnamon promptly, that is to say within twenty hours from the manifestation of its first symptoms, the patient will be able to return to his usual avocations within three or four days, and the earlier the treatment is resorted to after the first manifestation of

the onset of the disease, the earlier will complete convalescence be restored.

I referred to a decoction of cinnamon, and stated that Messrs. Burroughs, Wellcome & Co. had introduced a tabloid form of this decoction, but I had not, at that time, had much experience of the tabloids. After a three years' trial of them I now believe that they are wholly reliable, and they possess the great advantage that they can be easily swallowed, having little or no taste unless they are bitten.

Last year, a patient, a lady, was attacked with influenza twelve times. From long and weary experience she had become painfully alive to the symptoms ushering in and accompanying an attack of influenza, which invariably in her case presented a rise of temperature, *malaise*, loss of appetite, and pains in the head and limbs; sometimes the pains were severe; sometimes not so severe, but they were always present. She always kept a bottle of cinnamon tabloids in the house, and never travelled without them, and the moment she became conscious of the symptoms I have above described she immediately swallowed two tabloids, and repeated the dose every hour, or forty minutes, till the symptoms abated, with the satisfactory result that in not one of these attacks was she confined to bed at all, and in no instance was she confined to the house for more than a single day.

The treatment should be commenced as soon as possible after the patient becomes conscious of the onset of the disease. A delay of over twenty-four hours renders the treatment inefficacious. Two tabloids should be taken every half hour for the first two or three hours, and after that two tabloids to be taken every hour till the temperature becomes normal. After the temperature has fallen to normal two tabloids should be taken four times daily for four days. The patient should not leave the house for twenty-four hours after the temperature has become normal." (*Brit. Med. Journ.*, Vol. I for 1901, p. 1403).

Dr. E. Krompecher of Buda-Pesth, Hungary has carried on a series of experiments with Cinnamon in the treatment of tuberculosis in animals. (*Ann. de l'Inst. Pasteur*, Vol. 14, p. 723).

Citrophen (Phenetidin Citrate) still continues to be used, especially in Europe. The most prominent observer is Dr. F. Kornfeld of Vienna, Austria. He finds it of much value as an anti-pyretic and anti-rheumatic. In pertussis he has found it of special

value. He knows of no other agent which can equal it in the treatment of chronic morphine poisoning. Many have used it in treating influenza and Dr. Kornfeld would endorse this use of it as well. Among its other advantages he points out its ready solubility in carbonated waters and its pleasant acid taste. (*Therap. Monats.*, Vol. XIV, p. 485).

There are already some poisoning cases on record. The most prominent one was noted by Dr. Ernst Schotten of Cassel, Prussia. It was the case of a young woman to whom had been given sodium salicylate for acute rheumatic polyarthritis which brought on the peculiar singing in the ears and vomiting. This caused him to change over to Citrophén. (*Therap. Monats.*, Vol. XIV, p. 278).

Cocaine and its salts have received an increased amount of attention during the past year, chiefly relating to its use in intraspinal anæsthesia. The consideration of this form of medication will be found under the head of "Anæsthesia," in these comments.

The question of a preservative to produce a suitable solution which will keep for any reasonable time is still under consideration and many suggestions have been made during the past year. One prominent preservative mentioned is salicylic acid, and the following formula has been recommended:

Cocaine Hydrochlorate..	0.12 grammes (about	2 grains)
Distilled Water.....	10.00	" (" 154 ")
Salicylic Acid.....	0.01	" (" $\frac{1}{8}$ of a grain)

Dr. Willard P. Beach of Brooklyn, N. Y. writes that he is "satisfied that it is the common belief among physicians that cocain has little or no anæsthetic properties or powers when applied topically to the skin." This belief, he argues, is fallacious, and after making some suggestions, concludes that if his "suggestions are carefully carried out, you can dispense with all general anæsthetics, hypodermic needles, and so on, for minor surgery, and avoid pain of any sort or degree. I have found that the numbness and anæsthesia continue in the skin for from four to five hours after the last application of the cocain." (*Brooklyn Med. Journ.*, Vol. XV, p. 399).

Out of all the preservatives however none has given better results than boric acid and $2\frac{1}{2}$ per cent. will accomplish the result.

The use of Eucaine with Cocaine has increased during the past year. One of the prominent observers using this combination is Dr. Burdett Atkinson Terrett of Natchitoches, La. He not only would

recommend this combination for local anæsthesia but believes it quite applicable in major surgical operations. After relating his statistics of four cases he summarizes as follows:

"(1). That Cocain and eucain are undeniably the most potent, efficacious, and reliable local anesthetics in general use.

(2). That the agents in a menstruum of simple sterile water at ordinary temperature, when freshly prepared, give entire satisfaction, and, when injected in the proper manner, can be made to engender the most profound and complete anesthesia.

(3). That cocain and eucain must infallibly supplant a general anesthetic, whenever this latter is contraindicated by some organic lesion, whereby its use would be a menace and directly endanger the patient's life.

(4). That the combined infiltration and regional method is of unquestionable value, and its practical usefulness confined especially to those parts where the nerve distribution is easily accessible—notably to the extremities and ribs.

(5). That the entire absence of any untoward or unfavorable symptoms, as a result of this procedure, argues most favorably and cogently for its ulterior recognition and more general use." (*New Orleans Med. and Surg. Journ.*, Vol. LIII, p. 513).

It is far from gratifying to have to record that the Cocaine habit is largely on the increase. It seems extremely difficult in the South, for instance, to correct this vice among the negroes, but now that an increasing number of the States are including this agent under the poison schedule it is to be hoped that the vice may diminish. Some observers class this habit as more dangerous and harder to break up than the morphine habit, and it is quite a well-known fact at this date that the greater number of "guests" in the institutions organized to treat the Opium and Cocaine habitués are those addicted to the use of Cocaine. Individual cases of apparent cure are placed on record from time to time.

Dr. George William Norris of Philadelphia, Pa. records "A Case of Cocain Habit of Ten Months' Duration Treated by Complete and Immediate Withdrawal of the Drug." After describing the case and the treatment given, he draws the following conclusions:

"On looking over a considerable number of reported cases of acute and chronic cocain intoxication, the following facts have been gleaned which it may be of interest to tabulate:

1. Cocainism is the most insidious of all drug habits. The use of

the drug being unaccompanied by disagreeable after-effects—head-ache, nausea, vomiting, etc., which are met with after the ingestion of opium or alcohol—the vice is readily and rapidly established.

2. Cocainism is occasionally acquired by the local use of the drug in diseases of the nose and throat, teeth, etc., but more often as a substitute for opium or alcohol.

3. Cocain is eventually tolerated by the system in huge doses. (One case is recorded where 60 grains were daily consumed.)

4. A relatively large number of habitues are found in the medical and dental professions. (It is said 30%.)

5. The continued indulgence in cocain invariably, and usually soon, leads to marasmus, with mental, moral, and nervous degeneration.

6. The smallest fatal dose on record is $\frac{1}{2}$ grain hypodermically

7. While many cases of acute intoxication are being continually reported, there are relatively few fatal cases. The majority of such are the result of large doses injected into the urethra and bladder, *e. g.*:

5 fluiddrams of a 5% solution into urethra.

6 fluiddrams of a 5% solution into urethra.

8. The amount of Cocain sold yearly is rapidly increasing, and its self-prescribed use among the laity and lower classes becoming proportionately more frequent." (*Phila. Med. Journ.*, Vol. 7, p. 304).

Dr. James Hinshelwood of Glasgow, Scotland has written an article on "Acute Glaucoma after the Use of Cocaine with Remarks on the Use of Holocaine in Glaucoma." (*The Ophthalmic Review*, Vol. XIX, p. 305).

Dr. Simeon Snell of Sheffield, England reports "A Case of Acute Glaucoma induced by Cocaine." (*The Ophthalmic Review*, Vol. XX, p. 31).

There has been introduced during the past year a mixture of Cocaine and Antipyrin under the name of "Cocapyrine."

A direct combination of Cocaine and Iodine has been prepared in England under the name of "Di-Iodo-Cocaine Hydroiodide." It is claimed to contain 55.62 per cent. of Iodine and is classed as one of the "per-iodides." It is recommended as being far more stable than the other per-iodides, but Mr. P. W. Squire of London, England

rather refutes this statement. (*Pharm. Journ.*, Vol. XII, pages 602e and 630).

Creosotal (so-called Creosote Carbonate) is still before the profession, and whereas it is most applicable in the treatment of pulmonary tuberculosis it has been of some value, according to reports, in the treatment of pneumonia.

Dr. Charles F. Stokes of the United States Navy has contributed some "Brief Notes on Pneumonia as Treated by Creosotal" and concludes as follows:

"A summary of the results of experiments thus far made is that the pneumococcus forms a poisonous albumen—pneumotoxin. After the transference of this substance into the animal organism, fever occurs and in the course of a few days another substance is developed, called antipneumotoxin, that possesses the power of neutralizing the poison of the pneumococcus. When these facts are applied to human pathology the results, as shown by a series of experiments, are very satisfactory indeed."

He read this paper before the Medical Society of the County of Kings and the discussion which followed may be of interest to some. (*Brooklyn Med. Journ.*, Vol. XIV, pages 608 to 618).

Dr. B. B. Frankle of Cripple Creek, Colorado reports on "The Use of Creosotal in the Treatment of Acute Lobar Pneumonia." The cases he reported were all of average severity and all his patients got well. He urges a more extended trial of this agent. (*Colorado Med. Journ.*, Vol. VI, p. 483).

Creosote (Beechwood) is still in sufficient general use to be an index of the fact that it is found to be of some value. Undoubtedly its largest use will continue to be in the treatment of pulmonary tuberculosis. It is still thought sufficiently of, particularly in France, to warrant the publication of a very complete work on tuberculosis and the Creosote treatment by Dr. Samuel Bernheim. He brings the whole subject up to date in a systematic and thorough way. He however rather favors Creosote Carbonate to either the Phosphate (employed by some) or the pure Creosote.

It may be given here as the general consensus among observers that probably the most approved plan of administering this agent is to gradually increase the dose up to what might be classed a large dose, and then withdraw by degrees to a smaller one. The digestion and appetite are thereby not interfered with as much as under any

other plan of treatment, and all the functions appear to be less disturbed.

Dr. John Edward Godson of Manchester, England makes use of Creosote in "The Treatment of the Paroxysmal Stage of Whooping-Cough." He describes the method of treatment which he has found to be most satisfactory, as follows:

"Commence at once with the continuous inhalation of creosote. Clear the lungs of bronchitis as much as possible before using any special internal antispasmodic remedies. In broncho-pneumonia, however, belladonna appears at once to do good. In all cases, if or when the chest is fairly clear, and the circulation good, antipyrin may be given in suitable doses. Expectorants should be combined with the antipyrin. Good air, warm clothing, light, and wholesome food are necessary in all cases. I have followed these rules for the last six years, and am quite satisfied with the results. The average length of time required for cure in a variety of cases last year was 19.8 days, but these figures in no way represent the benefit derived from the creosote treatment. In every case the diminution in the numbers of paroxysms was so immediate that the patients willingly put up with the inconvenience of the smell of the drug for the sake of its manifest advantage. This in itself is a sufficient testimonial to the remedy to warrant its more extensive employment." (*Brit. Med. Journ.*, Vol. II for 1900, p. 1310).

Dr. I. L. Van Zandt of Fort Worth, Texas has written a résumé on Creosote in Pneumonia. He gives quite a list of references, all of which appear to verify his own observations and he therefore draws the following conclusions:

"Now, with this array of testimony re-enforcing my own observations for the last seven years, I trust that the members of this association will not consider me oversanguine when I express the opinion that the use of creosote or carbonate of creosote in the treatment of acute pulmonary inflammations is one of the greatest life-saving discoveries of the century just ended." (*N. Y. Med. Record*, Vol. 59, p. 492).

Dr. W. L. Grant of St. Thomas, N. D. writes on "Creosote in Pneumonia." (*Amer. Medicine*, Vol. II, p. 245).

Dr. Agnes Walker of San Francisco, Cal. reports two cases of tuberculosis of the hip and spine successfully treated with large doses of Creosote. (*Archives of Pediatrics*, Vol. XVIII, p. 525)

A new combination described as Methylene Creosote and obtained

by the action of Formaldehyde on Creosote, has been offered to the profession under the title of "Pneumin". It is described as a yellowish, odorless and tasteless powder, soluble in alcohol and ether but insoluble in water. Dr. J. Jacobson is apparently the only observer who has made any definite clinical use of it. He claims that it has marked beneficial effects in cases of tuberculosis when given in single doses of 500 milligrammes to 2 grammes (7.7 to 30.9 grains) daily put up in the form of cachets. He finds that it is free from local irritating action and may be administered for a long period without ill-effects. (*Therap. Monats.*, Vol. XV, p. 370).

A combination of Tannin, Creosote and Formaldehyde has been offered under the name of "Tannocreosoform."

A mixture of Creosote 5 parts, Spirit of Camphor 1 part, Spirit of Peppermint 1 part, made up with an excipient of simple syrup to 100 parts is recommended specially for the pneumonia often accompanying an attack of measles. A teaspoonful (5 grammes) is given every six hours.

There still continues to be reported cases of poisoning, both by intention and otherwise, from the use of this article, but the number of fatal cases is less than with carbolic acid, for instance. It is not quite as "fashionable" to use this agent as it is to use the acid. Prompt restorative measures appear to meet with success when large doses of Creosote are given.

Dr. Herbert M. Hewlett of Melbourne, Australia records the case of a girl a little over $3\frac{1}{2}$ years old having swallowed 8 grammes (about 2 drachms) of pure Creosote, and after prompt active treatment entirely recovered. (*Intercolonial Med. Journ. of Australasia*, Vol. V, p. 501).

Dionin (Ethyl-Morphine Hydrochlorate)—the synthetic local analgesic—is still largely confined to ophthalmological practice. Few other specialists make use of it.

Dr. F. Daxenberger of Regensburg, Bavaria reports "On the Action of Dionin", claiming it to be an excellent local irritant in ophthalmological work. (*Wochensch. für Therap. und Hyg. des Auges*, Vol. 3, p. 245).

Dr. Julius Kramolin of Buda-Pesth, Hungary has made use of this agent in several cases of so-called irritative cough and finds it at least of equal value and in some cases superior to codeine. He advises a more extended trial in the treatment of coughs in general. (*Therap. Monats.*, Vol. XIV, p. 535).

Dr. M. Krijewski contributed an article as his graduating thesis in Paris on the use of this agent as an analgesic, hypnotic and sedative. According to his observations it is superior in its action to codeine. He makes use of the hydrochlorate and rarely has to give a larger dose than 0.08 of a gramme ($1\frac{1}{4}$ grains) in 24 hours and usually finds 0.02 to 0.04 of a gramme ($\frac{1}{8}$ to $\frac{1}{4}$ of a grain) sufficient. (*Gaz. hebdom. de Méd. et de Chirurg.*, Vol. V new series, p. 1008).

Dr. W. Salzmänn of Warsaw, Russia reports favorably on the use of this agent as a narcotic and antispasmodic in all heart affections accompanied with annoying cough. It seems to relieve promptly any dyspnea and coughing spasms. (*Klin-therap. Wochensch.*, Vol. VII, p. 811).

Diuretin (Sodio--Theobromine Salicylate) has apparently been under observation in a comparative way for some time past and many prominent authorities appear to differ as to the value of the three diuretics, Digitalis, Strophanthus and Diuretin.

Dr. J. A. MacLaren of England reports an interesting series of experiments which he has carried on upon himself and hospital patients under his observation. He dosed himself for a period of twelve days with the Tinctures of Digitalis and Strophanthus, and Diuretin at various periods for comparative results. With Tincture of Digitalis diuresis appeared on the seventh day and toxic symptoms were evident. With the Infusion of Digitalis he obtained no diuretic effect and no toxic symptoms. With the Tincture of Strophanthus no diuresis was obtained after four days use and none obtained from Diuretin after three days use, but decided toxic symptoms occurred in both cases. He remarks that so-called "spontaneous diuresis" may be present in the majority of cases and attributed to the diuretics. As a result of his observations he reports that the one advantage of Diuretin is in its rapidity of action. Its toxic symptoms are more marked than the other diuretics and the effect less pronounced. In Bright's disease he noticed that Diuretin acted more favorably than the other two. In cardiac dropsy, however, Digitalis is far preferable. (*Med. Chronicle*, Vol. III series III, p. 429).

Dormiol (the combination of chloral hydrate and amylene hydrate)—called sometimes in past years Amylene-Chloral—has been practically unheard of during the past year, except in the way of repetition of more or less old matter.

Dymal is the short name given to a new compound stated to be Didymium Salicylate. It is described as an impalpable odorless and tasteless powder and is recommended chiefly as a dusting powder or made up with lanolin as an ointment. It is reported to be a chemical by-product and therefore its comparative cheapness gives it that much advantage.

Dr. C. Kopp of Munich, Bavaria has studied its action and reports favorably on it in the treatment of eczema, psoriasis, hyperidrosis, ichthyosis and pruritus. (*Therap. Monats.*, Vol. XV, p. 81).

Epicarin (a combination of Beta-Naphthol and Creosotic Acid) has not been heard of much during the past year.

The most prominent observer was a German, Dr. Pfeiffenberger. He used it in the treatment of scabies and prurigo in more than fifty children, ranging from one to fourteen years of age. In scabies he reports uniformly prompt effect without irritation, and five or six inunctions, even in the severest cases, seemed sufficient. The average length of treatment was something less than nine days. In treating prurigo he reports even better results than in scabies. One inunction seemed to have been sufficient. (*Dermatol. Zeitschrift*, Vol. VII, p. 1052).

Erythrol Tetranitrate (Tetranitrin) has not received any more attention during the past year than in the year previous.

At a meeting of the Paris Academy of Medicine held on March 5th last Dr. H. Huchard gave a short résumé of his experiments with it. In confirmed arterio-sclerosis, in coronary angina and uric acid dyscrasia, in gout and in interstitial nephritis, he obtained his best results—his cases in all were 120 and extended over the past four years. Its action is mild and prolonged which gave it marked advantage. (*Bull. de l'Acad. de Méd.*, Vol. LXV, p. 288).

At a meeting of the Italian Royal Academy of Medicine held on May 17th last Dr. Mattirio made use of this agent to reduce the high arterial tension in lead poisoning, in doses of 30 milligrammes (about $\frac{1}{2}$ of a grain). He found that just as soon as the arterial tension was relieved the colicky pain ceased and the patient slept quietly. On repeated attacks the same treatment was again successful. (*Gaz. degli Osped. e delle Cliniche*, Vol. XXII, p. 671).

Ethyl Bromide (Hydrobromic Ether) is still markedly before the profession and is quite the favored anæsthetic for short operations with an increasing number of anæsthetists.

Dr. Aime Paul Heineck of Chicago, Ills. has written on this

agent as a local anæsthetic, and after mentioning its disadvantages as well as those of nitrous oxide, describes the proper technique in administering Ethyl Bromide. (*The Medical Standard*, Vol. XXIII, p. 577).

Dr. Wilmer Krusen of Philadelphia, Pa. speaks very highly of this anæsthetic in obstetrics and gynecology and describes "the advantages which may be confidently claimed for this agent are: 1. The short space of time required to render the patient unconscious. 2. The small quantity of the drug employed and the rapidity of its elimination from the system. 3. The simplicity of its administration, no cumbersome apparatus or inhaler being required. 4. The comparative freedom from unpleasant sequels, such as headache, nausea, vomiting etc., which characterize the other more popular anesthetics." (*Phila. Med. Journ.*, Vol. 6, p. 871).

Many other observers have made use of this anæsthetic, and among those of prominence Dr. S. Ormond Goldan of New York City who undoubtedly will have something of value to report later.

Ethyl Chloride (Muriatic Ether) is still advocated by anæsthetists even though most observers give the preference to Ethyl Bromide for definite reasons.

A pure grade of Ethyl Chloride under the name of "Kelene" is still used and with this quality of anæsthetic it is claimed that its action is more rapid than Ethyl Bromide.

At a meeting of the Surgical Section of the New York Academy of Medicine held on January 14th, 1901, Dr. Martin W. Ware of New York City read a paper on "The Field of Ethyl Chloride Narcosis." He makes a strong plea for its use in minor surgery, for the following reasons:

"It is as safe statistically as any of the others; it induces a very rapid narcosis and equally as quick an awakening, and is void of any after-effects. Against its chief competitor, nitrous oxide, be it said that it is cheaper, does away with any special apparatus, is portable, and its market is so wide-spread already as to place the drug at hand for the vast majority of physicians and surgeons." (*N. Y. Med. Record*, Vol. 59, p. 533).

The discussion which followed brought out some remarks from Drs. Willy Meyer and James P. Tuttle—the latter reported that he had found it objectionable from the fact that complete muscular relaxation was not obtained. He had used it in a few cases of minor surgery and regretted to say that one of the worst cases of nausea

and vomiting following an anæsthetic that he had ever seen had been with Ethyl Chloride used as a preliminary to ether anæsthesia. (*N. Y. Med. Record*, Vol. 59, p. 194).

Dr. Ware followed this paper up by publishing another article on "The Administration of Ethyl Chloride as a General Anæsthetic, with Description of a Mask for its Use," and gives a cut of his simple device. He closes as follows: "In conclusion, I wish to emphasize the fact that this agent is only of service in minor operations and as a preliminary to cut short the agonies of the early stages peculiar to chloroform and ether."..... (*Med. News*, Vol. LXXIX, p. 168).

Mr. W. J. McCardie, anæsthetist to the General Hospital at Birmingham, England relates "A Few Cases of Ethyl Chloride Narcosis," giving short notes of his first ten cases. (*London Lancet*, Vol. I for 1901, p. 698).

Later he published "Some Further Cases of Ethyl Chloride Narcosis," relating eighteen cases, a study of which he says will best give an idea of the possibilities of Ethyl Chloride, for he relates both successes and failures. (*London Lancet*, Vol. II for 1901, p. 123).

Dr. C. A. Dethlefsen of Denmark reports a case of a woman suffering from lupus vulgaris of the nose and cheek of long standing which he treated by freezing with Ethyl Chloride. He sprayed the ulcerations without previous curetting, every second day, keeping them in each case frozen for a minute or two. Serous effusion immediately followed each freezing which afterwards dried up in the form of a scab. This latter was removed before the next freezing operation. Six sprayings which lasted through twelve days were sufficient to heal all the ulcers. (*Deut. Aerzte-Zeitung*, Vol. for 1900, p. 489).

Eucaine (Benzoyl-Vinyl-Di-Aceton-Alkamin) has lost none of its importance during the past year.

Dr. Fritz Engelmann of Bonn, Rhenish Prussia has made use of this agent in place of cocaine in subarachnoid injections in order to study their comparative benefits. He recommends the use of Eucaine-B as being less toxic and just as effective as cocaine hydrochlorate. He was bold enough to submit to an injection of 1 Cc. (16.2 minims) of a 2 per cent. solution into his own subarachnoid space. This had rather an unfortunate effect in his case as only a slight paresthesia was produced and no anæsthesia proper. He

reports other disagreeable symptoms, one of which was a persistent headache which at times was almost unbearable and lasted about ten days. It would therefore follow that it is not as free from objectionable features as some would claim. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 1531).

Dr. Jedlicka of Prague, Bohemia also reports seven cases where he has used Eucaine-B for spinal analgesia with unpleasant results. He then followed up his investigations with Eucaine Hydrochlorate-A in 93 laparotomies and other serious operations of the lower extremities, perineum, scrotum and various gynecological regions, with gratifying results. He believes by removing a corresponding amount of the cerebrospinal fluid the usual subsequent headache may be prevented. He finally concludes that this method of producing analgesia is particularly applicable to cases where heart and lung diseases are present. (*Die Therap. der Gegenwart*, Vol. 42, p. 171).

Dr. Gwilym G. Davis of Philadelphia, Pa. has written a paper on "Laryngectomy under Eucaine Anæsthesia, with Remarks on the Technique of the Operation." His cases were those of carcinoma in which general anæsthesia was considered as contraindicated because of the danger of suffocation. He used Eucaine-B and his results were successful. (*Annals of Surgery*, Vol. XXXIII, p. 32).

A product closely allied to Eucaine has been just mentioned in some quarters without any special clinical reports accompanying. It has been given the name of "Enophthalmin." It is claimed to be chemically Oxy-Toluyl-Methyl-Vinyl-Di-Aceton-Alkamin Hydrochlorate.

Euchinin (Euquinine)—the compound formed by the reaction between Ethyl Chloro-Carbonate and Quinine—has received some additional attention this year since the subject of malaria has been discussed in relation to the mosquito.

Dr. A. Celli, the Italian observer, has been working in the Italian Society for the Study of Malaria and reports that many persons have been treated with Euchinin as a prophylactic in doses of 0.5 of a gramme (7.7 grains) a day. Out of the 116 laborers on the Pontine Marshes around Rome who had never had malaria and were now given the prophylactic dose only 12 contracted malaria, while out of 271 laborers in the same region who were not treated prophylactically, 172 contracted malaria. Eleven railroad employees were treated with Euchinin prophylactically and only one showed

any symptoms of malaria. (*Centralbl. für Bakter. und Infekt.*, Vol. XXIX, p. 770).

Dr. Antonio Mori of Campiglia Marittima, Italy was induced to push the investigation of prophylaxis further by Dr. Celli's interesting results. Forty-two persons residing in very malarious districts were treated by the same dose. Five of these contracted malaria, but in a very mild form. There were 47 persons in the same district who were not treated prophylactically and 39 of these contracted malaria. (*Centralbl. für Bakter. und Infekt.*, Vol. XXIX, p. 786).

Eulactol (a special preparation of milk and eggs recommended last year by an Austrian observer) has not been heard of in the medical literature of the past year.

Euphthalmin (the Hydrochlorate of a Mendelic Acid derivative of Methyl-Vinyl-Di-Aceton-Alkamin) has been little heard of during the past year, except possibly a repetition of old matter.

Eupyrin is a new antipyretic brought to the attention of the profession and claimed to be chemically Para-Phenetidin-Vanillin-Ethyl Carbonate. It appears as fine greenish-yellow crystals with a slight but pleasant odor resembling vanilla and practically without taste. It is only slightly soluble in water but readily so in alcohol, ether and chloroform. It is basic in its action forming salts with acids.

Dr. Martin Overlach of Greiz, Germany was probably the earliest investigator with this new agent. He was searching for an antipyretic without distressing effect. He administered it in 50 cases successfully in doses from 1 to 1.5 grammes (15.4 to 23.1 grains). He claims it has special value in children and old people. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 1635).

Ferropyrin (Ferripyrin)—the hæmostatic compound of ferric chloride and antipyrin—has rather come into favor again in some few quarters. It has not been alluded to here for the past two years as being of any prominence so that it may be well to repeat now that it contains 64 per cent. of Antipyrin, 24 per cent. of Chlorine and 12 per cent. of Iron.

Dr. E. Toff of Braila, Roumania again calls attention to its remarkable efficiency as a hæmostatic, particularly in severe bleeding of the nose and in incised wounds. He made use of it particularly to check the puerperal hemorrhage in sixty-five gynecological cases. (*Wien. klin. Wochensch.*, Vol. XIII, p. 692).

From Italy comes the report that the following formula has been found effective in the dyspepsia of chloranæmia:

Ferropyrin	0.6 grammes (9.3 grains)
Soluble Pepsin	5 drops
Distilled Water	200.0 grammes (about 6½ fluidounces)

The dose recommended is a tablespoonful after each meal. (*Gaz. Medica Lombarda*, Vol. LIX. p. 280).

Fersan (the iron compound obtained from the red corpuscles of fresh ox blood) is still before the profession, particularly in Europe, and attracts some observers who report it as being the most preferable form of giving iron.

Dr. Max Josef Buxbaum of Vienna-Hütteldorf, Austria has used it successfully in the treatment of anemia, chlorosis and the convalescence following tubercular and cachectic conditions. (*Prager medicin. Wochensch.*, Vol. XXV, p. 569).

It has been recommended as acting particularly well when combined with malt extract in the proportion of one-tenth.

Dr. Julius Emil Fölkel of Vienna, Austria also recommends it as one of the best of the newer iron preparations. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 1536).

Formaldehyde—the antiseptic, disinfectant, deodorizer and germicide—still remains prominent before the medical profession. Its chief deficiency, if it may be so called, is its slight penetrating power for this is confined to quite narrow limits. If, however, bedding, clothing and other articles needing disinfection be separated by hanging up on a line or otherwise, Formaldehyde vapor is found to be one of the most effective disinfectants in the hands of the various Boards of Health.

Dr. Basil Kluczenko of Bukowina, Austria writes upon Formaldehyde disinfection, and after describing the process of disinfection by separating all the articles in a room, recommends the introduction of a 25 per cent. aqueous solution of ammonia to be heated outside of the door and introduced through the keyhole. An hour after this the windows are to be opened and the room well ventilated when the odor of Formaldehyde will be found to have been completely dissipated by reason of the combination of the two vapors. (*Wien. klin. Wochensch.*, Vol. XIII, p. 933).

Dr. Dieudonné of Würzburg, Bavaria has carried on a series of

experiments with simple rectangular blocks containing about 50 grammes of solid Para-Formaldehyde which he calls "Carboformal." He describes the process as being a smouldering of these blocks, after he lights them, in such a way as not to produce a flame and thus the Formaldehyde is distributed in the form of a vapor. One disadvantage of this form of disinfection is the requirement that all surfaces should be moistened with water to have the full effect. To produce steam he recommends pouring boiling water over red hot stones. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 1456).

Dr. William G. Bissell of Buffalo, N. Y. writes on the most simple application of Formaldehyde gas and its limitations in household disinfection. He gives seven illustrative cuts and summarizes as follows:

- "(1) It is the most satisfactory of the gaseous disinfectants;
- (2) Its penetrating powers are extremely slight;
- (3) A certain degree of moisture facilitates its action;
- (4) It should always be supplemented by a cleansing process."

(*Buffalo Med. Journ.*, Vol. LVI, p. 495).

In England a device is offered by which steam, sulphurous acid gas and Formaldehyde vapor are simultaneously produced. A sulphur candle is so placed that the heat from it when lighted vaporizes Formaldehyde and water in separate condensers properly arranged. This complete device is sold in the market there under the name of "Sulphugator."

Dr. Robert G. Schnee of Cleveland, Ohio has carried on a series of experiments to test the comparative value of sulphur and Formaldehyde. He describes his plan of proceeding in an article on "Sick-Room Disinfection" in the *Cleveland Medical Gazette* (Vol. XVI, p. 257).

Dr. Edward S. Lauder of Cleveland, Ohio has written on "Formalin and Some of its Uses in Ophthalmology." He expresses his preference for a 1 to 2000 solution as he has met with remarkable success with that strength in the treatment of mucopurulent and follicular conjunctivitis. He admits that in the treatment of ophthalmia neonatorum a much stronger solution may have to be used at first. For infected ulcerations or abrasions of the cornea he uses as strong a solution as 1 to 500 or even 1 to 200. In his experience any strength under 1 to 4000 produces a smarting sensation, but even this he finds is less and lasts a shorter time than when silver

nitrate solution is used. He recommends other strengths for other purposes. (*Cleveland Med. Gaz.*, Vol. XV, p. 619).

Dr. John A. Thompson of Cincinnati, Ohio reports on "Sarcoma of the Naso-pharynx Cured by Injection of Formalin." He illustrates by relating a case of one particular patient in whom no growth returned six months after treatment was completed. (*The Laryngoscope*, Vol. IX, p. 192).

Dr. Albert N. Blodgett of Boston, Mass. writes to the Editor of the *Boston Medical and Surgical Journal* (Vol. CXLIV, p. 412) on "Formaldehyde Gas in Diphtheria," relating his experience for the previous four years since his last report. He closes as follows:

"Should the claim here presented as to the influence of formaldehyde gas as a valuable aid in the treatment of diphtheria in locations not accessible to topical applications be doubted, the favorable effect upon the surroundings of the patient should still lead to its employment. The putrid and almost insufferable odor which accompanies the severer forms of diphtheria is at once destroyed, vermin will not remain in its presence, and the care of the patient is rendered far less dangerous and immensely less disagreeable. Flies which penetrate to the sickroom have been observed to fall dead before reaching the opposite side of the room. This fact alone would seem to be a recommendation for its use from the increased comfort afforded the patient, particularly in cases which cannot receive the benefit afforded by treatment in hospital."

Dr. Richard Loeb of Cologne, Rhenish Prussia publishes "A New Contribution to Disinfection with Formalin, Especially in Urology," relating his experiments on the efficacy of the disinfection of catheters and similar instruments by this agent. (*Muench. Med. Wochens.*, Vol. XLVIII, p. 183).

Dr. Gerstenberg of Berlin, Germany writes on "The Effect of Formol Treatment in Uterine Hemorrhage." His experience is based on ten cases embracing those of menorrhagia and metrorrhagia after abortion, due to inflammation of the adnexa. He also strongly recommends this agent in climacteric hemorrhages. (*Centralbl. für Gynäkol.*, Vol. 24, p. 889).

Dr. Walter Scatchard of Boughton, Faversham, England relates "a case of lupus on the nose of from four to five years' standing, in which the local application of formalin caused marked improvement, if not cure." (*Brit. Med. Journ.*, Vol. I for 1901, p. 1078).

Dr. Alfred C. Jordan of St. Bartholomew's Hospital, London,

E. C. England writes "On the Uses of Formalin in Glycerine," stating that such a "preparation is useful in at least four different ways—

- (1) As an application to the throat;
- (2) As a mouth-wash;
- (3) As an application to the skin;
- (4) As a urethral injection." (London *Lancet*, Vol. I for 1901, p. 468).

Dr. Burghart of Berlin, Germany writes on "The Treatment of Phthisis in the Hospital and in Army Practice" in which he recommends one-quarter of one per cent. solution of Formaldehyde to be inhaled by means of a mask similar to one used in giving chloroform. (*Berlin. klin. Wochensch.*, Vol. XXXVII, p. 621).

Dr. Robert Maguire of London, England in his Harveian Lectures on Prognosis and Treatment in Pulmonary Tuberculosis experimented with several of the well-known agents as germicides, and finally concluded, after trying several strengths, that a solution of 1 of Formaldehyde gas in 2000 of normal salt solution could be employed with safety. He illustrated the lecture with two cuts showing a special syringe used and a burette device with a pump which he describes as being most convenient. In a foot-note to his article as printed he writes: "Since delivering the lectures I have been able, by modifying the solution to employ a greater strength of the formic aldehyde." (*Brit. Med. Journ.*, Vol. II for 1900, p. 1695).

Dr. J. Lardner Green of London, S. W. England writes a note to the Editor of the *British Medical Journal* (Vol. II for 1900, p. 1624) and states that it has been his practice since 1895 to make use of inhalations of the spray of Formaldehyde solution and recommends the addition in some cases of spirit ammonia aromatic whereby the irritating qualities of the Formaldehyde are obviated. His preference however is for the use of urotropin (ammonium formate) at once, whereby he obtains better results, as the ammonia is thus combined chemically at the start.

Dr. Nevell E. Norway of New Quay, England writes a short preliminary note on the results obtained in England after carrying out Prof. Cervello's treatment of pulmonary tuberculosis by using "Igazol." This preparation is a combination of Formaldehyde, Tri-Oxy-Methylene (Paraform) and Iodine. Dr. Norway states that he saw the treatment being carried out under Prof. Cervello's own direction at Palermo, Sicily and was not then enthusiastic concern-

ing it. However a trial in three cases has convinced him "that it is a valuable aid to open-air treatment, especially where it is necessary to treat the patient at home." He goes on to relate a particular case in which he states that "it effected a result not possible in any other way." He concludes by stating that his small experience of only three cases "is of no value in itself, except as confirming Professor Cervello's statements, but it has convinced me that 'Igazol' is a valuable aid to our methods of treating phthisis, and is a popular and agreeable remedy to patients." (*Brit. Med. Journ.*, Vol. II for 1900, p. 662).

Dr. S. Tomaselli of the University of Catania, Sicily also describes the use of "Igazol" as recommended by Prof. Cervello. (*Gaz. degli Osped. e delle Cliniche*, Vol. XXI, p. 1121).

Dr. K. Hoffner of Baden-Baden, Germany in writing "On Igazol in Pulmonary Tuberculosis" reports ten cases of unfavorable results. In none of the cases could improvement even be recorded, and subsequent bacteriological examinations confirmed this. (*Therap. Monats.*, Vol. XV, p. 78).

Dr. K. Beerwald of Berlin, Germany on the other hand, although reporting after a more limited trial, believes that this agent has acted favorably in cases of bronchitis whether of the ordinary type or tuberculous, in that the amount of sputum was reduced, the appetite sharpened and sleep promoted. He however very frankly acknowledges that hygienic treatment was carried on simultaneously. (*Therap. Monats.*, Vol. XV, p. 78).

Dr. John S. Miller of Denver, Colo. recommends a Formaldehyde solution as a "Preservative Embalming Fluid." He lays particular stress on its advantages to the anatomist for dissecting room study. He writes: "When one enters an anatomical room where this formula has been used, he is at once impressed by the absence of the foul odors commonly found. Another feature is the life-like appearance of the cadaver, the subject looking better, perhaps, than in life, and to the touch the tissues are soft and pliant. The same natural appearance persists throughout the dissection. The most delicate white nerve fibers can be traced to their termination. . . ." (*Phila. Med. Journ.*, Vol. 6, p. 1166).

Dr. William Keiller of Galveston, Texas also writes "On the Use of Formalin in the Dissecting Room." (*Phila. Med. Journ.*, Vol. 6, p. 1248).

Dr. E. Viko of Park City, Utah reports on the "Intravenous

"Transfusion of Formaldehyde Solutions" in which he describes his experiments on dogs to solve two propositions: "1. Would it be possible, without injuring the animal, to introduce into the circulation formaldehyde in sufficient amount to disinfect tuberculous lungs? 2. By introducing formaldehyde into a vein of the foreleg—forearm—would the gas, after permeating the lungs, escape by the mouth, or would it go to the left side of the heart and into the general circulation?" He relates how he proceeded. (*Journ. Amer. Med. Assoc.*, Vol. XXXVI, p. 335).

In a general consideration of the subject of Formaldehyde as a disinfectant, Dr. Lewis G. Glover of Hampstead, Middlesex County, England forwarded notes to the *British Journal of Dermatology* (Vol. XIII, p. 154) of a case of a young married woman who after the application of a lotion to the hair containing Formaldehyde in Bay Rum, suffered from a severe urticarial eruption which covered quite the whole body. Improvement immediately followed after the use of simple remedies.

Dr. J. Klüber of Erlangen, Bavaria reports "A Case of Acute Formalin-Poisoning" in a male patient 47 years old. The conclusion is drawn that Formalin may be taken in as large a dose as several ounces accidentally without necessarily fatal results. In the above case recovery took place within three days. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 1416).

Dr. Martin H. Fischer of Chicago, Ills. writes on "The Toxic Effects of Formaldehyde and Formalin (A Preliminary Communication)" (*Journ. Boston Society of Medical Sciences*, Vol. V, p. 18).

Dr. Ludwig Zorn of Munich, Bavaria relates "A Case of Formalin Poisoning" in a man 44 years old who swallowed 30 Cc. (about 8 fluidrachms) by mistake. He recovered in a week. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 1588).

Dr. H. Strauss of Berlin, Germany writes an article on the treatment of Formaldehyde poisoning in which he uses ammonia as the antidote thereby forming the well-known agent urotropin which is a comparatively harmless agent—being neither locally caustic nor generally poisonous. He recommends that a few drops of solution of ammonium acetate be given at frequent intervals. (*Therap. Monats.*, Vol. XV, p. 103).

Dr. Richard May of Munich, Bavaria writes on "Formalin as a Preservative Medium for Urinary Sediment and Diformaldehyde Urea." (*Deut. Archiv. für klin. Medicin*, Vol. 68, p. 420).

Dr. R. G. Hebb of London, S. W. England contributes a note on the interesting observation of the action of Formol on acid urine. He states that he still has in his possession a sample of urinary sediment four years old which contains numbers of peculiar crystalline spherules which have been noticed for some years past. He states that he has noted the formation of these in urine which contained uric acid crystals and also in urine which deposited neither uric acid nor oxalates. (*Brit. Med. Journ.*, Vol. I for 1901, p. 1617).

"Eugoform" is one of the newer combinations prepared by the action of Formaldehyde on Guaiacol, and subsequent "acetylisation." Dr. H. Maass of Berlin, Germany has written concerning it and describes it as a fine greyish-white, nearly odorless powder which is used as a dusting powder for wounds, particularly in children. He claims that it has a certain advantageous local anæsthetizing effect. (*Deut. Med. Wochensch.*, Vol. XXVII, p. 329).

"Pulmoform" is also claimed to be a derivative of Formaldehyde and Guaiacol. Little is heard concerning it as yet.

Those who are interested in learning of all the most important combinations with Formaldehyde, will find such a list in the *Pacific Medical Journal* for January 1901 (Vol. XLIV, p. 26).

Glonoin (Nitroglycerin) continues to be used with excellent effect but nothing calling for special comment has appeared during the past year. It may however be of interest to some to refer to the experiments carried on by Dr. Romano Pellegrini of Girifalco, Italy in relation to the value of this agent in epilepsy. Fifteen well-marked cases were selected and were carefully watched for three months, first under the usual bromide treatment. This was followed by three months observation without any treatment whatever and finally for a third three months Glonoin was prescribed in 1 per cent. alcoholic solution. 0.12 to 0.60 Cc. (2 to 10 minims) dissolved in 250 grammes (about 8½ fluidounces) of water was given morning and evening. In fourteen of the cases the number and severity of the attacks were diminished. In ten out of the fifteen better results were noted than with the bromide treatment. The final conclusion was that this agent might be a useful alternative to the bromide treatment as no unpleasant results were noted. (*La Riforma Medica*, Vol. XVII, p. 75).

Guaiacol (now synthetically produced from Pyro-Catechin) has been quite universally used throughout the past year and only a

few of the leading references can be alluded to here as samples of the lines in which it is being employed.

Drs. A. Weill and M. S. Diamantsberger of Paris, France presented an article on "Intensive Guaiacolization in the Treatment of Pulmonary Tuberculosis" to the Section on Therapeutics at the Thirteenth International Medical Congress on August 7th, 1900, claiming that the reason such agents as Guaiacol and Creosote gave poor results, was on account of insufficient doses. Their successful results were obtained by giving daily hypodermic injections of 1 Cc. (16.2 minims) of a solution made up according to the following formula:

Crystallized Guaiacol (synthetic) . . .	10.00 grammes (154.3 grains)		
Oil of Sweet Almonds			
Sterilized at 120° . . .	10.00	"	(154.3 ")
Cocaine Hydrochlorate	0.20	"	(3.1 ")

In conjunction with this a daily injection by the rectum is given consisting of 50 drops of this same solution added to hot milk. Still further they give a special pill made up according to a certain formula but containing a particular extract which is not recognized in this country, therefore it would not necessarily be useful to mention it here. It will be noted however that they apparently make use of most of the available channels for medication. They report that this treatment has been followed out in over 500 cases and all yielded good results. They included cases of not only pulmonary tuberculosis, but chronic bronchitis, pulmonary gangrene and intestinal tuberculosis. (*Rev. de Thérap. Médico-Chirurg.*, Vol. 67, p. 622).

Dr. G. B. Burzaghi, an Italian observer, reports one case of tuberculosis of the skin treated with applications of Guaiacol, which added to the five cases previously reported by another observer makes six cases he states which have been treated in this manner. The application is made up according to the following formula:

Guaiacol, pure	40 grammes (617.3 grains)		
Olive Oil, sterilized	40	"	(617.3 ")
Alcohol at 60°	10	"	(154.3 ")

He frequently noticed toxic symptoms when using this formula and he therefore reduced the quantity of the Guaiacol and the Olive Oil to 10 grammes (154.3 grains). He used these latter pro-

portions then until his patient was reported cured. Throughout the course of treatment he prescribed internally Guaiacol and Solution Potassium Arsenitis. Dr. Burzaghi concludes that whereas his one case does not establish a permanent clinical value for this agent still his remarkably good results would encourage him and others to give it a further trial. (*Gaz. degli Osped. e delle Cliniche*, Vol. XXI, p. 1198).

Dr. Desesquelle, a French observer, reports successful results in the treatment of facial erysipelas by using a combination according to the following formula:

Guaiacol Crystallized (synthetic) . . .	1.0 gramme (15.4 grains)
Menthol.	1.0 " (15.4 ")
Camphorated Oil	30 Cc. (about 8 fluidrachms)

This oily solution is painted on the affected part as well as the healthy tissue surrounding it, every two hours. The itching, burning and other disagreeable symptoms are promptly alleviated. Three out of five cases were extremely severe in that the entire face and scalp were involved, but relief was rapid. (*Bull. Gén. de Thérap.*, Vol. CXL, p. 407).

Dr. Léplat of Lille, France reported two cases of lupus of the face treated with Guaiacol, at a meeting of the Anatomico-Clinical Society of Lille, France. There were extensive ulcerations accompanying these cases and applications were made twice a day of equal parts of Guaiacol in glycerin. The first case required one month and the second four for complete healing. At the date of reporting some months had elapsed and no recurrence had appeared. (*Annales de Dermat. et de Syphil.*, Vol. I, fourth series, p. 788).

Dr. Berthold Goldberg of Cologne, Rhenish Prussia recommends the use of the following ointment twice a day in the treatment of acute gonorrheal epididymitis:

Guaiacol.	5 grammes (77.2 grains)
Lanolin.	10 " (154.3 ")
Resorbin.	10 " (154.3 ")

He reports twenty-five cases and reviews the literature concerning this treatment for the four years previous. Salol is also given in conjunction in doses of 3 to 4 grammes (46.3 to 61.7 grains) daily. (*Centralbl. für innere Medicin*, Vol. 22, p. 337).

Dr. Jesse Hawes of Greeley, Colo. discussed the "Local Use of

Guaiacol in the Treatment of Frequent, Painful Urination" before the Colorado State Medical Society last year, and reference was made here to the abstract as it then appeared. It may now interest some to read the whole article as it appears in print in the *Journal of the American Medical Association* (Vol. XXXV, p. 1678).

Dr. Allahverdiantz relates a new method of treating varices, hemorrhoids, varicocele, hydrocele and serous effusions with Guaiacol. He uses a solution of Guaiacol varying in concentration according to the sensitiveness of the patient. The treatment is continued morning and evening for from ten to twenty days. He reports that he has cured seven cases of varix whose condition had lasted from three to seventeen years and had never responded to other well-known measures. (*Bull. Gén. de Thérap.*, Vol. CXLI, p. 207).

Dr. W. H. Russell Forsbrook of Buckingham Palace-road, London, S. W., England recommends Duotal (Guaiacol Carbonate) in the treatment of both acute and chronic osteo-anthritis, and relates the clinical history of three cases. (London *Lancet*, Vol. II for 1900, p. 773).

A new compound of this agent has been introduced under the name of "Guaiacol Cacodylate" prepared by combining equal weights of Guaiacol and Cacodylic Acid. Naturally this is recommended for the treatment of pulmonary tuberculosis but little clinically has yet been reported.

A camphoric ester of Guaiacol under the name of "Guaiacamphol" has also been recommended in the treatment of the night sweats of pulmonary tuberculosis. Dr. A. Lasker of Freiburg, Saxony has used this combination beginning with doses of 200 milligrammes (3.1 grains) and if no improvement follows he gradually increases up to 1 gramme (15.4 grains). This combination is reported to be a colorless, crystalline, odorless and tasteless powder, readily soluble in alkalies only. (*Deut. Aerzte-Zeitung* for 1900, p. 377).

"Pulmoform" is the name given to another compound of Guaiacol—Methylene-Di-Guaiacol—and is reported to be a yellow, odorless and tasteless powder.

A compound of Iodine and Guaiacol has been offered under the name of "Iodocol." Little is yet heard concerning it.

A combination of Quinine, Bromine and Guaiacol forming what is claimed to be a Quinine Bromo-Guaiacolate goes under the short

name of "Guaiakinol." It is claimed that it is a very soluble compound and thus presents a form of much benefit for the internal administration of all these three agents. It is recommended also for external use in erysipelas. Little has been reported as yet in relation to it clinically.

Hedonal (the Ester of Methyl-Propyl-Carbinol-Carbamic Acid)—the hypnotic—is still prominent before the medical profession.

Drs. Sigismund Goldschmidt and Dittersdorf of the Baths at Reichenhall, Germany recommend it very highly as a substitute for either morphine or chloral in the treatment of insomnia. Their minimum dose is 2 grammes (30.9 grains). The only disadvantage they find in its use is its disagreeable taste. It does not work as satisfactorily in the treatment of asthma and neuralgia as it does in cases of neurasthenia and in cases of slight rise of temperature in the tuberculous. (*Deut. Medizin.-Zeitung*, Vol. XXI, p. 1075).

Dr. S. Heichelheim of Giessen, Germany has carried on some "Clinical Experiments with Hedonal." He is now able to report on 72 cases and concludes that it is of marked benefit in all cases in which the insomnia is not due to pain. Sleep is generally produced in an hour and there are no unpleasant effects. He finds one considerable advantage this agent has over others, and that is that it can be increased to comparatively large doses if called for. (*Deut. Med. Wochensch.*, Vol. XXVI, p. 795).

Dr. Wedekind of "Urban" speaks highly of its hypnotic powers but finds that it is contraindicated in alcoholics and in those diseases which produce dyspnea. (*Deut. Aerzte-Zeitung*, Vol. for 1900, p. 555).

Dr. Eduard Müller of Freiburg, Saxony has carried on quite an extensive series of tests with this agent and proclaims it to be a safe and reasonably efficient hypnotic. He apparently does not agree with some other observers in that it can be increased to larger doses with corresponding beneficial effects, for he states the system becomes habituated to it so rapidly that very large doses are just as ineffectual as the small ones. He however seems to have concluded that it is safe even in these relatively large doses. (*Muench. Med. Wochensch.*, Vol. XLVIII, p. 383).

In a report on "The Clinical Value of Some of the Newer Hypnotics," Dr. Albert E. Brownrigg of Concord, N. H. is able to speak from an experience in treating 35 cases and states that he "cannot

.....
 speak as unguardedly of its uniform results as have some others.”

.....
 “The sleep was quiet and restful, but easily disturbed.....
 “The drug did not seem to affect the appetite or digestion at all, and, in fact, one of its chief recommendations is its innocuousness. This is associated, unfortunately, with such feeble hypnotic powers as makes it generally unreliable in emergencies, but certainly applicable to the milder forms of simple insomnia.” (*Boston Med. and Surg. Journ.*, Vol. CXLV, p. 61).

Dr. Otto Lenz of Döbling, just outside of Vienna, Austria also agrees that this agent is of value in milder cases of insomnia, particularly among the insane. He claims his safe dose is 1 gramme (15.4 grains) given either in milk or simply dry on the tongue, to be washed down with a mouthful of water. He reports favorably also concerning its use in hysteria, neurasthenia and paralysis. (*Wien. klin. Rundschau*, Vol. XIV, p. 696).

Heroin (claimed to be a Di-Acetic Ester of Morphine) is still a very prominent article.

Dr. L. Nied of Vienna, Austria reports a series of cases in an article under the head of “Experience with a Substitute of Morphine,” in order to demonstrate the beneficial effects of this agent. The cases were chiefly those with very decided dyspnea. (*Deut. Med. Wochens.*, Vol. XXVI, p. 434).

Dr. J. Runkel of Bonn, Rhenish Prussia has followed up the success of others using this agent in the treatment of bronchitis and is able to add 45 cases of his to the 50 previously reported by Dr. Georg Strube of Berlin. Most of his cases were those of children under two years of age. In four of his cases he reports that in addition to the very pronounced symptoms of bronchitis there were present all the very marked symptoms of pertussis. In these four cases the narcotic and soothing effects of this agent were very pronounced. The frequency and severity of the attacks were rapidly diminished in the majority of them. The following table of doses is recommended:

For a child three	months old	0.00025 to 0.00050	of a gramme.
“ “ “	seven	“ “ 0.00025 “ 0.00067	“ “ “
“ “ “	ten	“ “ 0.00050 “ 0.001	“ “ “
“ “ “	fifteen	“ “ 0.00050 “ 0.00125	“ “ “
“ “ “	twenty	“ “ 0.00050 “ 0.00150	“ “ “

(*Wien. klin. Rundschau*, Vol. XIV, p. 584).

Dr. M. Loewenthal of Brooklyn, N. Y. also reports on "Heroin in the Treatment of Phthisical Cough and Whooping-Cough." He gives the clinical history of thirteen of his cases and a tabulated summary. He concludes as follows:

"These histories will do to show what the virtues of heroin are, especially in the treatment of whooping-cough. It is superior to anything we have for this trouble, and I am sure that it will prove a valuable addition to our materia medica; and in conclusion, when you have a case of pertussis, and you desire results, use heroin." (*Phila. Med. Journ.*, Vol. 6, p. 460).

Drs. Samuel H. Brown and Erle D. Tompkins of Detroit, Mich. report on this agent as an analgesic in fifty administrations in hospital cases. (*Ther. Gaz.*, Vol. XXIV, p. 519).

Dr. E. Stadelmann of Berlin, Germany has carried on a series of comparisons between Heroin and Morphine. He would recommend it in the correction of the morphine habit because less of the latter drug will produce the effect longed for by the subject if Heroin is given as a substitute first. He strongly advises against its use subcutaneously, especially when the subject has control, for it apparently is far more toxic than morphine when given in that way. (*Deut. Aerzte-Zeitung*, Vol. for 1900, p. 401).

Dr. Benno Hyams of New York City reports the results of his therapeutic studies when using the hydrochloride, and relates fourteen cases. He closes as follows:

"To sum up briefly: Heroin hydrochloride is indicated in coughs of all kinds, whatsoever the cause, in dyspnea and in all catarrhal inflammations of the respiratory mucous membrane, and in all cases in which morphine is contraindicated. In acute bronchitis the combination of heroin hydrochloride with ipecac seems to be particularly effective. In chronic bronchitis and in asthmatic conditions the addition of the iodide of potash is of much value. In whooping-cough, with belladonna, its action proved palliative. In diabetes my results have been poor. In pulmonary tuberculosis, I regard this drug as one of the best remedies with which to combat the cough, dyspnea and night-sweats. A drug which can be used for long periods without dangerous sequelæ, and at the same time exerts the effect before mentioned, is peculiarly suited to the treatment of this often protracted disease." (*Med. News*, Vol. LXXVII, p. 846).

Dr. Norman P. Geis of Brooklyn, N. Y. writes on "Heroine as

an Analgetic." He reports one particular case "to show what large doses can be given and kept up day and night." (*N. Y. Med. Journ.*, Vol. LXXII, p. 929).

Dr. Bernard Lazarus of New York City makes "A Contribution to the Therapeutic Action of Heroin" and reports nine cases. He concludes as follows:

"The very thorough investigations which I have made with heroin hydrochloride in my practice enable me impartially to state that I consider this drug a most valuable aid to the medical profession. Its range of application, while originally confined to the treatment of respiratory affections, has been much extended by later observations. In pulmonary affections accompanied with coughs, I would rank it as a specific, while its analgesic qualities in neuralgia and its antispasmodic effect in asthma and whooping cough have been so well established as to entitle it to a prominent place in the treatment of these affections." (*Boston Med. and Surg. Journ.*, Vol. CXLIII, p. 600).

Dr. A. Nusch of Nuremberg, Germany writes on "The Therapeutic Value of Heroin and Aspirin" and in general confirms the observation of others. (*Muench. Med. Wochensch.*, Vol. XLVIII, p. 457).

Dr. A. Morel-Lavallée of Paris, France has made quite a study of this agent in various lines. He claims that by its use there is little temptation to the patient to repeat the dose, and thus the question of a habit may be eliminated. (*Rev. de Médecine*, Vol. XX, pages 872 and 977).

Dr. Jean Artaud of Lyons, France has made some observations on the use of this agent in the treatment of pain and confirms the reports of others. (*Lyon Medical*, Vol. XCVI, pages 353 and 399).

Dr. B. D. Gillies of Montreal, Canada contributes some "Notes on the Action of Heroin as Compared with that of the other Derivatives of Opium." (*Montreal Med. Journ.*, Vol. XXX, p. 450).

"Incompatibilities of Heroin and Heroin Hydrochloride" are treated of in *The Therapist* (Vol. XI, p. 12).

Dr. Maris Gibson of Wilkes-Barre, Pa. publishes "Some Notes on New Remedies with a Case of Poisoning by the Diacetyl-Acid-Ester of Morphin (Heroin)." (*Therapeutic Monthly*, Vol. I, p. 55).

Hetol (Sodium Cinnamate) has remained before the profession as a prominent agent in the treatment of pulmonary tuberculosis throughout the past year.

Dr. Anton Krokiewicz of Cracow, Austrian Galicia has made use

of intravenous injections according to Dr. A. Landerer's method in forty-three cases of pulmonary tuberculosis. In eighteen of these he gave it in conjunction with arsenous acid subcutaneously. He is able to report one case of complete recovery and 25 per cent. of the remainder improved. He states that successful results can be only looked for in cases treated early. (*Wien. klin. Wochensch.*, Vol. XIII, p. 902).

Dr. A. Landerer of Stuttgart, Germany has now followed up his report of two years ago on the use of this agent in pulmonary tuberculosis. He not only cites his own cases but groups together a great mass of corroborative evidence obtained by other observers. He claims that the unfavorable criticism which it has received from some quarters has been based on those cases in which too large a dose has been given, and a great deal more has been looked for from it than ever was expected. (*Berliner Klinik*, page 1 in No. 153 for March 1901).

Dr. A. Kühn of Munich, Bavaria has made some observations with this agent in the treatment of tuberculosis. He tabulates his eleven cases. He claims that with this agent patients can be treated as well in their own homes, but of course advises their entering a "sanatorium" whenever possible for undoubtedly much better care and watchfulness can be given there. (*Muench. Med. Wochensch.*, Vol. XLVIII, p. 453).

Holocaine (the local synthetic substitute for cocaine) has not been directly reported on to any prominent extent throughout the past year, but it is being quite extensively used with good results.

Honthin is the name given to a new preparation which is said to be a modified Albumin Tannate. It is described as a greyish-brown, tasteless and odorless powder, insoluble in water and only slightly soluble in ether, alcohol and alkalies. It bears a close resemblance to tannalbin, but has the advantage in many cases of furnishing an agent whereby a larger proportion of it reaches the intestinal tract before it is split up. It is claimed that only 41.5 per cent. of tannalbin reaches the intestinal tract, whereas in this new agent 72.1 per cent. is found to have reached there. The adult dose is from 0.5 to 1.0—2.0 grammes (7.7 to 15.4—30.9 grains) up to 10.0 grammes (154.3 grains) per day. For children the dose recommended is 0.3 to 0.5 of a gramme (4.5 to 7.7 grains). For infants 0.25 to 0.30 of a gramme (3.9 to 4.5 grains). (*Therap. Monats.*, Vol. XV, p. 138).

Dr. Josef Reichelt of Vienna, Austria has written an article on "Honthin, an Intestinal Astringent, and its Therapeutic Action in Children" in which he reports that it acts rapidly, is harmless and is an efficient astringent, leaving no bad results even when pushed to large doses and continued for quite a period. (*Wien. klin. Wochenschr.*, Vol. XIII, p. 813).

Dr. J. W. Frieser, of Vienna, Austria, after a somewhat lengthy previous article, publishes "Some Observations in the Treatment of Intestinal Catarrh. Honthin: An Improved Intestinal Astringent" in which he reports thirty-eight cases of diarrheal affections treated with excellent results. He confirms the above general statement and expresses his satisfaction with the fact that it is cheaper than tannalbin and is one-half more effective than tannalbin. (*The Therapist*, Vol. XI, p. 10).

Hydrogen Dioxide and its solution continues to take a very prominent place in the consideration of the medical profession of the world. The literature is now very voluminous and it will be useless to attempt to enumerate here even a limited number of its various uses. It is being offered in this country under special names with claims in each case for its extra purity, increased concentration and special keeping qualities.

Poisoning cases are on record and one of the most interesting ones is that reported by Dr. H. T. Miller the London (England) correspondent of the *Medical Record* in which he attributes the death of an appendicitis patient to its employment. (*N. Y. Med. Record*, Vol. 59, p. 392).

Dr. Robert T. Morris of New York City follows up this statement with a note in regard to the case of Dr. Miller. (*N. Y. Med. Record*, Vol. 59, p. 476).

Dr. M. Chanoz of Lyons, France advocates the use of the solution for the purpose of detaching adherent dressings. (*Lyon Médical*, Vol. XCVI, p. 816).

It has been used for the "Removal of Powder-Stains" by Dr. J. Neely Rhoads of Philadelphia, Pa. (*Amer. Medicine*, Vol. I, p. 16), and by Dr. Frederick K. Smith of Warren, Ohio. (*Amer. Medicine*, Vol. I, p. 152).

Ichthalbin (Ichthyol-Albumen)—the substitute for Ichthyol—has been little commented upon individually throughout the past year, but it is still in quite common use.

Ichthargan (a combination of Silver with Ichthyol-Sulphonic

Acid) was alluded to here last year under the head of Ichthyol as being described by Dr. Aufrecht of Berlin, Germany. It has met with some attention since then and a few of the observers may be mentioned.

Dr. Leo Leistikow of Hamburg, Germany recommends it very highly in the treatment of acute anterior gonorrhea. He urges a more extended trial of it. (*Monats. für Prakt. Dermat.*, Vol. XXXI, p. 183).

Dr. H. Lohnstein of Berlin, Germany has made use of it in some 187 cases of gonorrhea—124 acute and 31 primary cases. He found it to be an excellent antiseptic and bactericidal agent. (*Allgem. Med. Centralbl.-Zeitung*, Vol. 69, p. 948).

Dr. M. Eberson of Tarnów, Austrian Galicia confirms the above statement and extols its efficiency. (*Therap. Monats.*, Vol. XV, p. 31).

Ichthoform is a compound of Ichthyol and Formaldehyde, and is presented in the form of an impalpable powder. It passes on beyond the gastric digestion into the intestinal tract where it splits up—the Formaldehyde acting antiseptically and the Ichthyol in the specific manner desired.

Dr. Hugo Goldman of Brennbürg (near Oedenburg), West Hungary has used this agent in 100 cases of acute gastro-enteritis and chronic gastric catarrh with great success. He claims that in "even the severest gastro-enteritis with bloody stools, ichthoform in 5-grn. doses given every three hours acted promptly, both the diarrhea and the vomiting rapidly ceasing." (*Centralbl. für die gesammte Therap.*, Vol. XVIII, p. 513).

Dr. Romolo Polacco of Milan, Italy reports remarkable success with this agent in that persistent form of diarrhea due to intestinal tuberculosis, and also in the diarrhea of typhoid fever and in dysentery. (*Deut. Med. Wochens.*, Vol. XXVII, p. 77).

Ichthyol (Ammonium Ichthyol-Sulphonate) still holds its own. The dermatologists have evidently made good use of this agent during the past year.

Dr. Alexander Brownlie of Redcar, England has published his notes of some typical cases of eczema and acne treated with Ichthyol in private practice. He relates four cases of eczema and two of acne. He draws some definite conclusions and closes by saying that: "Ichthyol, of course, is not applicable to every case of eczema or acne, neither do I claim for it a specific action, but it is un-

doubtedly a useful drug in these diseases." (London *Lancet*, Vol. II for 1900, p. 1491).

Dr. Brownlie makes a separate report on his method of treating a severe case of erythema nodosum by means of Ichthyol, made up according to a special formula. (*Brit. Med. Journ.*, Vol. I for 1901, p. 17).

Dr. Hugo Kraus of Prague, Bohemia has written an article "On the Ichthyol Treatment of Scarlet Fever According to Seibert" in which he states that he does not favor Seibert's method. It consists in rubbing into the whole body every six to twelve hours from 30 to 90 grammes (about 1 to 3 ounces) of a 5 to 10 per cent. Ichthyol ointment. Others have found it to work well, but Dr. Kraus states that not only no favorable results were obtained in three cases, but he observed intense dermatitis with persistent itching and very profuse desquamation. (*Prager med. Wochensch.*, Vol. XXV, p. 617).

A 12 to 20 per cent. ointment however has been used most successfully by Dr. M. Kamneff, a German observer, in the treatment of a number of cases of smallpox. Prompt relief was obtained on the very first day. "The course of the disease was much shortened and no pitting occurred. (*Therap. Monats.*, Vol. XIV, p. 682).

Dr. H. de Brun of Beyrouth, Syria related his experience with this agent in the treatment of a number of cases of leprosy, at a meeting of the Paris Academy of Medicine on April 23rd last. He administered it internally and soon found that he could begin with a dose of 5 grammes (77.2 grains) without hesitation. He has not obtained the satisfactory results from external applications reported by other observers. (*La Médecine Moderne*, Vol. 12, p. 132).

Dr. Walter T. Slevin of Brooklyn, N. Y. reports three cases in which he used Ichthyol in the treatment of deep-seated inflammations. He used a combination made up according to a special formula which he gives. He foresees that this agent in the formula given "should be most effective when used in chronic conditions, inflammations, glandular enlargements, and ulcerations, whether of specific nature or otherwise, as it is a great aid to absorption." (*N. Y. Med. Journ.*, Vol. LXXIII, p. 410).

Dr. Carl Schütze of Bad Kösen, Germany reports having successfully used Ichthyol baths in treating the various forms of anemia,

in gouty affections and in diabetes. He adds something less than 60 grammes (about 2 ounces) of Ichthyol to a bath of about 62 gallons and keeps the bath at 35° C. (95°F.) The patient is immersed from ten to fifteen minutes. (*Deut. Medizin.-Zeitung*, Vol. XXII, p. 373).

Dr. J. W. Frieser of Vienna, Austria has written on "The Therapeutic Value of Ichthyol." (*Wien. klin. Rundschau*, Vol. XV, p. 330).

Iodalbumin (one of the newer albumin combinations containing 10 per cent. of iodine combined with albumin), alluded to here a year ago, has been practically unheard of during the past year.

Iodine has little to call special attention to here, but it may be of interest to record that Dr. Louis J. Lautenbach of Philadelphia, Pa. has found that free iodine and free phosphorus when added to cod-liver oil increase its therapeutic value, and would recommend therefore such an addition as a valuable aid. (*Med. News*, Vol. LXXVII, p. 608).

Iodipin (the combination of iodine with the fatty acids in oil of sesame) is still kept before the profession.

Dr. Sessous of Halle, Prussian Saxony has written on "The Therapeutic Application of Iodipin." He has given it subcutaneously and by the mouth in a number of cases, eight of which he relates, and concludes that it is fully as efficient an antisypilitic agent as potassium iodide. It can also be administered hypodermically and thus iodine may be introduced into the system through a channel heretofore untried. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 1175).

Dr. Karl Holzhäuser of Strassburg, Germany reports the details of eight cases in the advanced stages of syphilis where this agent was used in place of potassium iodide. He injects a 25 per cent. solution into the muscles of the back by means of a special syringe. He is thus enabled to saturate the system with iodine without either disturbing the digestion or affecting the skin. He finds that when given by the mouth patients do not object to it as much as they do to the iodides. (*Therap. Monats.*, Vol. XIV, p. 419).

Dr. S. Heichelheim of Berlin, Germany has written an article on "Iodipin as an Indicator of the Motor Power of the Stomach." His plan is to give about 1.5 grammes (23.1 grains) in gelatin capsules and then test the saliva about every quarter of an hour for

the presence of iodine. (*Zeitschrift für klin. Medicin*, Vol. XLI, p. 321).

Dr. Franz Werner of Vienna, Austria has written on "Iodipin as a Means of Diagnosis" in which he gives full details. (*Wien. klin. Wochensch.*, Vol. XIV, p. 160).

Dr. Alfred Careno Croftan of Pasadena, Cal. speaks highly of "Iodin Used Hypodermically in the Treatment of Pulmonary Tuberculosis." He employed Iodipin of 10 per cent. strength and injected it subcutaneously between the skin and the muscle of the gluteal and interscapular regions. "The results obtained so far by this plan of treatment have been uniformly good; in a few cases amelioration of symptoms was marked from the beginning; appetite improved, the cough, the night sweats grew less severe, the patients gained in weight and improved in spirits. The physical signs were modified and seemed to show that the process was at least being held in check and rendered latent; in 2 out of my 27 cases a recurrence of symptoms occurred at the expiration of three and five months,
"It is altogether too early to make any statements in regard to a cure."
(*Journ. Amer. Med. Assoc.*, Vol. XXXV, p. 1273).

Iodocol is the name which has been given to a combination of Iodine and Guaiacol. It is offered in the form of a dark red powder, soluble to some extent in alcohol and ether but insoluble in water. It is prepared by adding to a solution of sodium guaiacolate a solution of iodine in sodium iodide and the resulting precipitate treated in a special manner.

Dr. Giuseppe Cattani of Milan, Italy appears to be the only observer who has yet reported on its use. He has made use of doses of from 300 to 400 milligrammes (4.7 to 6.2 grains). The advantage claimed for this combination is that it may be given for months at a time without producing iodism, and may be used to good effect in affections of the respiratory tract as well as in tubercular affections of the intestines. (*Gaz. degli Osped. e delle Cliniche*, Vol. XXII, p. 83).

Iodoform has by no means been completely substituted as yet. As the literature has been considerable throughout the past year, only prominent individual references can be profitably alluded to here.

Dr. L. Vacher of Orléans, France has written an article on "In-

tratracheal Injections of Iodoformed Ether in Cases of Laryngeal Tuberculosis." He has met with considerable success in using Iodoform according to the following formula:

Ether holding Iodoform to saturation

	100 grammes (about 3½ fluidounces)
Guaiacol.....	5 " (77.2 grains)
Eucalyptol.....	2 " (30.9 ")
Menthol.....	1 gramme (15.4 ")

The amount injected into the tracheal tissue was 2 Cc. (32.5 minims). (*Semaine Médicale*, Vol. 20, p. 422).

Dr. Jay G. Roberts of Hastings, Neb. writes to the Editor of the *Philadelphia Medical Journal* (Vol. 7, p. 501) describing a case of purulent endometritis treated by injections of Iodoform-Glycerin Emulsion, and gives a detailed account of the technique.

Dr. Nikolaus Hackmann of Vienna, Austria describes what he calls an Iodoform plug which he uses for filling up cavities produced by diseased tissue. The plugs are formed according to the following formula:

Spermaceti.....	40.0 grammes (about 10 drachms)
Oil of Sesame.....	20.0 " (" 5 ")
Iodoform. ...	30.0 to 60.0 " (7½ to 15 ")

He reports specially good results in bone cavities. He presents seven cases in illustration. (*Wien. klin. Wochensch.*, Vol. XIV, p. 537).

Dr. William Mackie of Elgin, Scotland has written an article on "Calcium Iodate as an Iodoform Substitute and Gastro-Intestinal Antiseptic." (*London Lancet*, Vol. II for 1900, p. 1867).

Dr. Alexander Fraenkel of Vienna, Austria claims to have found a substitute for Iodoform in powdered animal charcoal. He injects it into the tuberculous joints in 10 per cent. strength held in suspension in glycerin. He is able to report on twenty-one successful cases. (*Wien. klin. Wochensch.*, Vol. XIII, p. 1085).

Dr. Willy Anschütz of Breslau, Prussia has described a case of Iodoform intoxication and states that as far as he knows it is the first case on record in which iodine acne was observed from Iodoform intoxication. It was a male patient 30 years old in whom a 20 per cent. emulsion of Iodoform in glycerin was injected into a cold abscess just below Poupart's ligament. (*Beiträge zur Klin. Chir.*, Vol. 28, p. 233).

Dr. Henry M. Eustace of Dublin, Ireland reports "An Unusual Case of Iodoform Poisoning" occurring from a dressing of Iodoform gauze. The amount of Iodoform in the gauze was evidently very small, "but the patient must have been peculiarly susceptible to the drug." (*Brit. Med. Journ.*, Vol. II for 1900, p. 1778).

Dr. A. Soret of Havre, France calls attention to the fact that thin patches of Iodoform adhering to the skin after the dressing is removed obscures the X-Rays. The skiagram in one case recorded gave the appearance of spots which might suggest foreign bodies in the tissues within. He cautions against the use of Iodoform when a skiagram is to be taken. (*La Rev. médicale de Normandie*, Vol. II, p. 75).

Iodol (Tetra-Iodo-Pyrrol)—the Iodoform substitute—has not been heard as much of during the past year although still in use.

Iodonafan has not been alluded to individually throughout the medical literature of the past year, except in the way of repeating older references.

Iodopyrin (the combination of 40 per cent. iodine and 60 per cent. antipyrin) has not been much heard of during the past year, except in the way of repeating older references.

Itrol (Silver Citrate) has received little attention during the past year.

Kryofin (the antipyretic closely allied to phenacetin) has been practically unheard of during the past year.

Lactophenin (π -Lactyl-Phenetidin) has received little individual attention from the medical profession in the way of definite clinical reports during the past year. It however is still on the market as of professed value as an analgesic in neuralgia, migraine and articular rheumatism.

Lanofom (a mixture of lanolin with 1 per cent. of formaldehyde) alluded to here last year as an antiseptic has received practically no attention throughout the past year.

Largin (the silver compound with albumin, containing 11.2 per cent. of silver) has been practically unheard of during the past year, except in the way of repetition of older observations.

Liquid Air has not met with the reception throughout the medical profession that had been hoped for and even expected by some who had pictured the possibilities. Whether it is too expensive to prepare or whether the professed results have been either disap-

pointing or dangerous, has not been determined. However little has been heard concerning it throughout the past year.

Dr. A. Campbell White of New York City is probably the most prominent observer during the year. He has written an article on the "Possibilities of Liquid Air to the Physician." He believes its use in the treatment of non-cutaneous diseases covers a very broad field. He is convinced that there are very important possibilities in the line of inhalation, particularly in the treatment of certain diseases of the air passages, such as hay-fever, acute laryngitis, tubercular laryngitis and possibly pulmonary tuberculosis. He is even expecting so much from this line of treatment that he is having a special inhaler made which will carry the vapor well back over the glottis before it becomes warm. (*Journ. Amer. Med. Assoc.*, Vol. XXXVI, p. 426).

Lycetol (Di-Methyl-Piperazin Tartrate)—the uric acid solvent—has been little heard of during the past year except in the advertising lines.

Lysoform is the name given to a combination of lysol and formaldehyde. This produces a thin soapy product soluble in water and alcohol which is recommended as a valuable disinfectant for the hands of the surgeon.

Dr. E. M. Simons of Berlin, Germany recommends it as of value in the form of an injection in affections of the genito-urinary tract, also as a vaginal injection. He has found that even in very stubborn cases two or three injections give complete curative results. (*Allg. Med. Centralbl.-Zeitung*, Vol. 69, p. 767).

Dr. P. Strassmann of Berlin, Germany has made use of it as an antiseptic for the hands in gynecological work. He has observed that a three per cent. solution will destroy the most malignant bacteria in thirty hours. A five per cent. solution was found to be as efficient as a three per cent. solution of lysol or as a 1 to 1000 solution of bichloride of mercury. (*Centralbl. für Gynäkol.*, Vol. 25, p. 265).

Dr. F. Ahlfeld of Leipzig, Germany has also carried on a series of experiments with Lysoform as a hand-disinfectant. He apparently approves of its use and acknowledges its efficiency, but qualifies his indorsement by stating that it is no better than the other methods usually employed. (*Centralbl. für Gynäkol.*, Vol. 24, p. 1380).

Lysol (the saponified product of coal-tar, chiefly composed of

cresols)—the substitute offered for Carbolic Acid—continues to be largely used but rarely individually spoken of in the medical literature.

It may be of interest to record here that Dr. William Hartigan of Hong Kong, China reports a case of poisoning by Lysol which he claims to be of rare occurrence. It occurred in the case of a boy 14 years old who gave himself a rectum injection with a syringe containing something less than 45 grammes (about 1½ ounces) of Lysol dissolved in a pint of water for an attack of "dysentery." Death finally followed. (*Brit. Med. Journ.*, Vol. II for 1900, p. 1498).

Mallein (the so-called "animal antitoxin") has been practically unheard of during the past year.

Menthol (obtained from the oil of peppermint) hardly needs mention here as its use is too well known in certain lines to be commented on. However the special use as recommended by Dr. M. Saenger of Magdeburg, Prussia may be of interest. He claims that Menthol furnishes the practitioner with a valuable non-poisonous local anæsthetic which can quiet the irritation of the respiratory tract and thus diminish a cough as completely as morphine can, with the distinct advantage of avoiding the unpleasant effects of the latter. One of his plans of proceeding is to warm a few crystals in a spoon over a lamp or candle and then inhale the vapor. Another plan is to make a solution of 40 or 50 per cent. strength in alcohol and allow the vapor coming from ten to twenty drops of this solution placed in the palms of the hands, to be inhaled directly or by means of a mask. He however realizes that the collection of mucus will often hinder the direct action of the vapor and therefore he still further advises the injection immediately into the larynx of a solution of this agent in olive oil. A cough is thereby produced by the marked irritation and thus the mucus is expelled and the remaining solution has a chance to act upon the mucous membrane. He has found this method of value in chronic bronchitis and pulmonary tuberculosis but of less value in acute bronchitis. He recommends it also in the treatment of pertussis. (*Therap. Monats.*, Vol. XV, p. 359).

Menthol and Para-Chlor-Phenol, in proportions not yet given, have been reported under the name of "Menthosol."

Dr. August Logucki of Warsaw, Russia describes it as a viscid liquid with a characteristic odor and recommended as an antiseptic.

tic, both internally and externally. (*Wien. klin. Rundschau*, Vol. XIV, p. 521). Little else has been heard concerning it.

Mercuriol (the compound consisting of yeast nuclein and metallic mercury) is still before the medical profession in a limited way. Fewer references have been made concerning it during the past year than in the previous one.

Dr. Ramon Guiteras of New York City has published "Some Notes on the Use of Mercuriol: A New Remedy in Urethritis," in the London *Lancet* (Vol. II for 1900, p. 871). He closes as follows: "In conclusion, it might be well to say from a comparative study of the different methods of treating gonorrhea that it would seem that mercuriol is an advance on the old methods of treatment by balsamics and astringent injections."

Mr. R. Lake of Harley-street, London, W. England, surgeon to the Royal Ear Hospital, relates his experience with "Mercuriol as an Antiseptic in Diseases of the Nose and Ear." He gives the clinical details of five of his cases and concludes as follows: "My general impression is that mercuriol is the least irritating efficient antiseptic with which I am acquainted, being possessed of properties which commend it highly, especially as a lotion for the irrigation of cavities such as the maxillary sinus." (*London Lancet*, Vol. II for 1900, p. 1726).

Methyl Salicylate (Synthetical Oil of Wintergreen) has still a very prominent place among the agents largely used for the treatment of rheumatism.

Drs. P. Chatin and L. Guinard working in the Therapeutic Laboratory of the University of Lyons, France on the general consideration of salicylates have reported on the pharmaco-dynamics of Methyl and Sodium Salicylates. (*Lyon Médical*, Vol. XCIV, p. 511).

Dr. Cosma, a Roumanian observer, read a paper at the Thirteenth International Medical Congress reporting on eighty-five cases of acute and subacute rheumatism in which he used internally the following formula:

Methyl Salicylate.....	8 grammes	(123.5 grains)
Mucilage of Acacia....	150 "	(about 5½ ounces)
Rum.	25 "	(385.8 grains)
Simple Syrup.	25 "	(385.8 ")

He began with doses of from 1 to 2 grammes (15.4 to 30.9 grains) (*La Bull. Méd.*, Vol. 14, p. 909).

Methylene Blue (Tetra-Methyl-Thionine Chloride)—the anilin derivative—is still receiving very prominent attention.

Drs. Achard and M. Loeper of Paris, France read a report at the meeting of the Paris Biological Society on December 1st last on "A Test of Methylene-Blue in the Amyloid Degeneration of the Kidney." The diagnosis was confirmed at the autopsy. (*La Semaine médicale*, Vol. 20, p. 421).

Dr. Alexander Iwanoff has carried on a series of investigations "On the Alterations of the Malarial Parasites during Treatment with Methylene Blue." He draws a comparison between the action of this agent and quinine. (*Deut. med. Wochensch.*, Vol. XXVII, p. 281).

Dr. Charles H. Lewis of New York City has apparently continued his observations with this agent for he reports during the past year on "The Use of Methylene-Blue Injections in Pleurisy with Effusion." His investigations as carried on at the Columbus Hospital in New York City were alluded to here last year, and in the present report he evidently has continued his observations in the same hospital. (*Med. News*, Vol. LXXVIII, p. 856).

Dr. Berthier, a French military surgeon, reports on the use of this agent in the form of a warm injection in the treatment of dysentery. The strength is 100 to 200 milligrammes (1.54 to 3.08 grains) of Methylene Blue in one litre of water as a beginning but may be just doubled. One or two such injections bring prompt amelioration, and at the longest, four days bring complete relief. (*La Sem. médicale*, Vol. 20, p. 354).

Dr. Kurt Elsner of Stettin, Prussia reports the results of his careful series of experiments to determine the amount of Methylene Blue excreted from the body. In four of his cases he found that the total amount excreted averaged about 68 per cent. of the quantity administered. (*Deut. Archiv. für Klin. Med.*, Vol. 69, p. 47).

Other observers report on its use in various gynecological affections, in hysteria and in the treatment of gonorrhea.

Myrtol—obtained by fractionally distilling myrtle oil—has been little heard of during the past year except from one observer, Dr. Solomon Solis-Cohen of Philadelphia, Pa. He reports favorably on its use in affections of the respiratory tract. He states that one observer in particular has made use of it successfully in the treatment of gleet, gonorrhea, cystitis and diabetes where

other agents had failed, but that his own experience "is as yet purely with its use in affections of the respiratory tract, subacute or chronic, in which I am resorting to it more and more freely as my results become more and more satisfactory." (*Merck's Archives*, Vol. II, p. 436).

Naphthalan (Naftalan)—the proprietary article made by dissolving 2.5 to 4 per cent. of anhydrous soap in purified petroleum naphtha—is still being kept before the profession by energetic advertisers, but in addition there are a few direct observers reporting on its use during the past year.

Dr. H. Sagebiel of Göttingen, Prussia reports on "The Effect of Naphthalan in Eczema of the External Ear." Four out of five patients treated for chronic eczema gave excellent results—the other case was very decidedly a poor result. Thirty-two out of thirty-five cases of acute eczema were entirely satisfactory in results—the remaining three were classed as unfavorable. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 1664).

Dr. H. Hallopeau of Paris, France describes "The Results obtained from the Use of Naftalan in Some Skin Diseases." He had remarkable success in the treatment of pruritus. (*Annal. de Dermat. et de Syphil.*, Vol. I, fourth series, p. 638).

Dr. M. Rauch of Vienna, Austria has reported "On Naftalan in Hemorrhoids." He describes how he accidentally discovered such beneficial effects as to render unnecessary the usual radical operation. He makes use of a 20 per cent. suppository in a mixture of:

Coca Butter.	1.5 grammes (23.1 grains)
Yellow Wax.	0.5 " (7.7 ")

Relief from pain was immediate and the hemorrhage was promptly checked. (*Deut. med. Wochensch.*, Vol. XXVI, Therap. Beilage, p. 37).

Naphtalin (Naphthalene)—one of the hydrocarbons obtained from coal-tar—has received practically no attention throughout the year except in the way of repetition of older references.

Naphtol (B-Naphtol)—Naphthol the coal tar derivative—is only mentioned here to allude to a new agent offered under the name of "Epikarin" which closely resembles Naphthol. It is claimed to be produced by introducing into the Naphtol molecule a carboxyl group by means of the action upon it of creosotic acid.

Dr. F. Siebert of Munich, Bavaria has employed this new substi-

tution product and alludes to it in his "Brief Communications on the Therapeutics of Skin Diseases." He has prescribed it in the treatment of tabes with remarkably good results. He uses a 10 per cent. salve spread all over the body and repeated for three successive days. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 1489).

No other observer has apparently reported on its use.

Nirvanin (Di-Ethyl-Glycocyl-Para-Amido-Ortho-Oxy-Benzoic Acid-Methyl-Ester-Hydrochloride)—one of the substitutes for cocaine—has not been heard of during the past year except in the way of repeating older references.

Nosophen (Tetra-Iodo-Phenol-Phthalein)—the Iodoform substitute—is still being kept before the medical profession by those who are interested in furthering its use, but little reference has been made to it during the past year.

Orexin (Phenyl-Di-Hydro-Quin-Azoline)—the appetite promotor and stomachic—is less often heard of now-a-days than Orexin Tannate which seems to be the preferable form.

Dr. Josef Bodenstein of Steinach, Germany seems to have been the most prominent observer using even the Tannate during the past year. He gave the Tannate in cases of gastric cancer, chlorosis, anemia, typhoid fever, pneumonia and diphtheria, and although other observers cannot exactly agree to its uniformly good results, Dr. Bodenstein claims that its use was always followed by improvement. His good results were repeated in cases of chronic alcoholism and in tobacco users. (*Wien. med. Presse*, Vol. XLI, p. 2283).

Orthoform (Methyl Ester of π -Amido-*m*-Oxy-Benzoic Acid)—the synthetic local anæsthetic constituted like cocaine—is still considerably used with much benefit.

Dr. Gustav Spiess of Frankfort-on-Main, Germany recommends its use in the treatment of pertussis. He injects it by insufflation two or three times consecutively about every two hours, immediately on the mucous membrane of the pharynx. It appears to effectually check the spasms and relieves much of the discomfort. In the case of young children however he does not apply so frequently. Three or four times throughout the day appears to be sufficient. (*Muench. Med. Wochensch.*, Vol. XLVIII, p. 596).

Dr. Guglielmo Memmi of Siena, Italy has carried on an extended series of observations in the treatment of gastric ulcers which may be of interest for some to read and such will be found in *La Riforma Medica* (Vol. 2 for 1901, pages 435, 446, 460, 472, 483 and 484)

but his conclusions in relation to Orthoform as a test to differentiate a gastric ulcer are confined to the last page mentioned. He reports that he is also able to determine the location of the ulcer. One gramme (15.4 grains) of Orthoform dissolved in about half a glass of water when administered caused the gastric pain to disappear in twenty minutes, and was not again experienced for three or four hours. This relief is only experienced when the Orthoform comes in actual contact with the ulcer so that the varying recumbent positions in which the patient may be put will locate its site by reason of the pain disappearing or not as the patient is shifted about. He reports that simple gastralgia is not relieved by this Orthoform solution and the pain continues.

Dr. Gaston Graul of Würzburg, Bavaria reports a case where a diffuse toxic dermatosis was produced by the application of a 10 per cent. Orthoform vaselin applied to an abdominal blister which had broken. This result was a surprise, but relief was finally obtained by the use of naftalan. (*Deut. med. Wochensch.*, Vol. XXVII, p. 390).

Dr. W. Dubreuilh of Bordeaux, France has written an article on "Orthoformic Eruptions" in which he states that two separate varieties are produced by this agent—an erythema by itself or complicated with vesicles and gangrenous eruptions. These latter are reported as being rare but Dr. Dubreuilh reports two cases which were not relieved for quite a long time. It is claimed that the persistent use of the Orthoform was the cause of this lengthy duration. (*La Presse Médicale*, Volume for 1901, p. 233).

Dr. Richard Friedlaender of Berlin, Germany reports that he considers this agent dangerous, although he realizes that such is not the general opinion. He would therefore recommend that its use be confined to superficial wounds and then only in small quantities and continued for a few days only. (*Therap. Monats.*, Vol. XIV, p. 679, literature references under "Toxicology").

Owing to the more frequent reports of poisoning cases, there have been attempts made to prepare a sulphonic derivative of Orthoform with less toxic effects. It is now reported that there has been such an article offered and the sodium salt prepared which is claimed to be readily soluble, perfectly stable and non-toxic. Little however has yet been heard about it clinically.

Oxycamphor (Oxaphor)—obtained by chemically replacing one atom of hydrogen for the radical HO—is still before the profes-

sion and used chiefly in the treatment of asthma, but little has appeared in the literature of the past year.

Paraldehyde needs little comment here and is in such general use that few individual references are made to it. It may be of interest, however, to refer here to a fatal case of poisoning by this agent as recorded by Dr. Lovell Drage of Hatfield, England. The Doctor believes that there is no case on record of death from poisoning by Paraldehyde and therefore he published this case stating that he held an inquest upon the woman who died from the poisoning. The case was a woman 46 years old who had been suffering for some years from chronic emphysema, chronic bronchitis and heart disease. The relation of the case closes as follows:

"The habit of taking drugs, especially those which act on one or other part of the nervous system, is on the increase, and I ask in all seriousness, Are the members of the medical profession sufficiently careful in their methods of prescribing, and especially with reference to the ordering, of proprietary remedies and drugs in the form of compressed lozenges and other articles of that genus? The fact is, so many lethal drugs, or drugs that may be lethal if not prescribed with adequate precaution, are introduced and advertised as harmless that it behoves us to proceed warily." (London *Lancet*, Vol. II for 1900, p. 875).

Petrosulfol (a new combination similar to Ichthyol) has been practically unheard of during the past year.

Pharmacopœias of the various countries are still receiving increased attention.

One of the most important steps taken during the past year was the conversion of the British Pharmacopœia, recently revised, into an Imperial Pharmacopœia by publishing the long-promised Indian and Colonial Addendum. The importance of this is not fully realized in this country but throughout the British Empire it has a far-reaching effect, for it will be remembered that a few years ago there were three Pharmacopœias in the United Kingdom, issued in London, Edinburgh and Glasgow—each considered as a local Standard. The accomplishment of this enlarged scope of a British Standard gives a certain amount of encouragement to those who are urging an International Pharmacopœia.

The fourth edition of the German Pharmacopœia came in force on January 1st last. It appears that there were twenty-six new articles added and ten dropped.

It is reported that a special Commission of twenty-seven members of the German Homœopathic fraternity has brought forth a German Homœopathic Pharmacopœia. It is reported that it closely follows the official German Pharmacopœia. The Commission thought well to preface the book with the statement that while Hahnemann's principles should be adhered to there was need for simplification in accordance with the views now generally held by homœopaths.

A new Austrian Pharmacopœia which will make the eighth edition is now well along towards publication and there has been some discussion already on the admissions and omissions proposed. The admissions appear to number sixty-seven—the omissions sixty-one.

It is announced that a new Croatian (Austria-Hungary) Pharmacopœia will be published and put in force on January 1st next.

The Dutch have now a Pharmacopœia Standing Committee at work on an approaching revision, and it is reported that they propose to make use of the chemical nomenclature now used in the German and Austrian Pharmacopœias. The Dutch Pharmaceutical Society has objected to this and proposes to appeal to the Government for they evidently desire no change from their present nomenclature.

It was hoped that the new French Pharmacopœia might be issued last August, but although the revision work is well-advanced there has not yet been an announcement of its actual publication.

The Swiss Government have now a permanent Pharmacopœia Committee working on a complete revision of their Pharmacopœia which will take about two years to accomplish. This permanent Committee is made up of eleven members: Five practical pharmacists, one pharmacognosist, four doctors and the director of the Confederation Health Office in Berne.

A new edition of the Swedish Pharmacopœia is now under way, and although a preliminary announcement was made that it would appear during the past year, it has not yet been printed and some time may elapse before its accomplishment.

The actual development of an International Pharmacopœia has not been given up by any means, for there are still many physicians and pharmacists of prominence looking forward to this end. Mr. E. M. Holmes, in his Presidential Address before the British Pharmaceutical Conference on July 24th last, again broached the subject, reminding all those who would give the question some thought

that a practical International Pharmacopœia cannot be otherwise than a gradual growth, and therefore any steps towards the final result might be undertaken at once. He argued, as others have done before, that attention could well be limited at first to poisonous preparations, and that only those formulæ which approached nearest to decimal proportions should be made to harmonize. The non-poisonous preparations could then be taken up with a better idea of the practical results of the first step.

Professor Tschirch of Berne, Switzerland also alluded to the subject of an International Pharmacopœia at the Ninth International Congress of Pharmacy held at Paris, France in August last. He made the suggestion that the various national Governments should appoint at least two official delegates, and that the minor States should send proportionate representatives to a General Conference. Each pharmaceutical society and college of medicine should be represented by official delegates and a regular stated line of discussion would undoubtedly lead to profitable results. Before the Congress closed the representative Committee which had been appointed by the previous Congress was re-appointed and the conclusions arrived at were as follows:

"1. To prepare a table showing the differences in strength of medicaments bearing the same name in different Pharmacopœias.

"2 To unify this table.

"3. To ask that in future Pharmacopœias the strengths proposed be adopted, and attention called thereto in footnotes.

"4. The members of the Congress—official and non-official—to do all they can to get the strengths adopted.

"5. To ask the Belgian Government to arrange with other Governments for a Conference in Brussels, and to ask all the members to have their proposals ready to lay before the meeting whenever it may be called." (*Chem. and Drug.*, Vol. LVII, p. 276).

Phenacetin (Para-Acet-Phenetidin), although very largely used, has received little individual attention throughout the past year.

Phenocoll (Amido-Para-Acet-Phenetidin)—the antipyretic—is too well known and too largely used to need comment here, and just one or two points will be alluded to.

The treatment and prophylaxis of malaria has been studied very thoroughly by Dr. H. Ziemann, a German observer, who has issued his second report concerning malaria and mosquitoes on the

West Coast of Africa. He found that Phenocoll and Methylene-Blue were practically useless—Quinine superior. (*Deut. med. Wochensh.*, Vol. XXVI, p. 769).

Dr. Giuseppe Cao of Cagliari, Island of Sardinia reports a case of an eruption occurring after the use of Phenocoll Hydrochloride. This was a man twenty-eight years old who had been suffering from an attack of malaria which had resisted quinine even when given subcutaneously. Two 500 milligramme (7.7 grains) doses of Phenocoll Hydrochloride were given him which produced an eruption of bright red macules on the neck, flanks and arms. This eruption subsided without special treatment but re-appeared on administering a second dose. (*La Riforma medica*, Vol. XVII, p. 386).

Piperazin (Di-Ethylene-Di-Amine) continues to be enthusiastically advocated by some observers.

Dr. Charles J. Aldrich of Cleveland, Ohio, relates two cases of nephrolithiasis in which he used this agent. He writes that: "The facts set forth in the cases to be reported are of such an incontestable nature that they will convince the most skeptical of the marked effect which piperazine has in securing and maintaining the solubility of uric acid within the genito-urinary tract. They are, indeed, but two of the many cases in which piperazine has been used with signal benefit by the reporter, but the character of the other cases was not such as would be desirable for a brief report." (*N. Y. Med. Journ.*, Vol. LXXII, p. 542).

"Sidonal" (the combination of Piperazin and Quinic Acid) seems to be the favored form in which to prescribe this agent. It may be interesting to recall that Prof. Weiss first introduced this agent after observing that one or two pounds of cherries, strawberries or grapes taken daily might reduce the amount of uric acid excreted from 20 to 40 per cent. This led him to the deduction that the reduction of uric acid was due to the quinic acid contained in these fruits, and it was still further proved that quinic acid retards the formation as well as the excretion of uric acid. The use of "Sidonal" has been pretty generally confined to the treatment of chronic articular rheumatism and gout. There are some observers however who have not obtained favorable results. As this article is patented and the cost is considerable, it has not received as general attention as it otherwise would.

Dr. Fred. Blumenthal published a paper on "Sidonal—A New

Remedy for Gout" which may be of interest to those who are following up this treatment. (*The Amer. Therapist*, Vol. IX, p. 125).

Dr. J. Lindsay Porteous of Yonkers, N. Y. having seen the above paper relates his own experience. (*The Amer. Therapist*, Vol. IX, p. 149).

Dr. Salfeld of Wiesbaden, Germany reports his good results with "Sidonal" in the treatment of gout, but states that he found no beneficial effect in treating articular rheumatism. (*Muench. Med. Wochensch.*, Vol. XLVIII, p. 633).

Dr. Mylius of Rathenow, Prussia confirms the observations of others in the use of "Sidonal," and believes firmly that it is in a sense a prophylactic in gout. (*Therap. Monats.*, Vol. XIV, p. 658).

Dr. Hugo Sternfeld of Munich, Bavaria believes in the efficiency of quinic acid in the treatment of gout but prefers the lithium salt, and reports that his results are so gratifying that this form of the agent should be preferred to all others, especially in private practice. He states the only drawback at present to the use of lithium quinate is its excessive price. (*Muench. Med. Wochensch.*, Vol. XLVIII, p. 260).

Protargol (the silver compound consisting of 8.3 per cent. of Silver combined with Protein) is still of considerable prominence. Opinions still differ, however, as to its relative efficiency. This is well shown in a review recently published by Dr. Otto von Sicherer of Munich, Bavaria in relation to its therapeutic value in diseases of the eye. (*Zeitsch. für Augenheilk.*, Vol. IV, p. 214).

Dr. Fritz Engelmann of Bonn, Rhenish Prussia also reviews critically the previously published reports on the prophylaxis of ophthalmia neonatorum where Protargol is used by Credé's eye instillation method. He is reluctantly obliged to report some very poor results, its use having produced so-called silver catarrh in over 48 children. (*Centralbl. für Gynäk.*, Vol. 25, p. 4).

Dr. Herman B. Sheffield of New York City has made use of Protargol as a local remedy in vulvovaginitis in children. He makes use of a specially compounded formula which includes iodoform. (*N. Y. Med. Journ.*, Vol. LXXII, p. 189).

Dr. Max Reichmann of Chicago, Ills. has published a résumé of the literature on Protargol and adds some clinical observations. He devotes one whole page to a tabular review of 16 cases in his private practice. (*Medicine*, Vol. 7, p. 361).

Dr. Henry J. Scherck of St. Louis, Mo. has made use of Protargol in a special formula in the treatment of gonorrhea. He relates his experience in a paper entitled "Gonorrhea and its Treatment from the Present Standpoint." (*Ther. Gaz.*, Vol. XXV, p. 14).

Dr. Niessen of Munich, Bavaria reports on over 200 cases of gonorrhea treated with Protargol throughout one year. He had previously reported on a series numbering over 670 cases treated by other methods in 1896, and his comparison now would show that the average duration of the attack is no better with Protargol than with other methods of treatment. He can say, however, that Protargol is somewhat less painful. (*Muench. Med. Wochensch.*, Vol. XLVIII, p. 460).

There has been a report on the use of this agent in intestinal catarrh as being of some value, but confirmatory observations are not yet offered.

Pyoktanin (Methyl-Violet)—the analin dye "pus destroyer"—has not been directly commented upon in the medical literature of the past year.

Pyramidon (Di-Methyl-Amido-Antipyrin)—the substitute for antipyrin of the past few years—is still receiving some attention.

Pyramidon Camphorate has appeared to be quite a favorite form in which to prescribe it in the treatment of pulmonary tuberculosis. Drs. B. Lyonnet and C. Lançon of Lyons, France reported on fifteen cases of its successful use whereby the temperature and the night sweats were reduced in all cases. They prescribed it in daily doses of 1 gramme (15.4 grains) made up into an aqueous solution. (*Lyon Médical*, Vol. XCVI, p. 609).

Dr. Bertherand, a French observer, has also made use of the Camphorate in the same class of cases with like successful results. (*La Sem. médicale*, Vol. 21, p. 151).

Other observers have made use of it successfully in the treatment of typhoid fever, according to some indefinite reports. More detail of these will very probably follow.

Pyrogallol (Pyrogallie Acid) has not been alluded to definitely during the past year. It may be interesting however to simply note that Dr. Henry W. Stelwagon of Philadelphia, Pa., in presenting a paper on the "Treatment of Skin Cancers Without Operation," enumerates four caustics which have very positive action in his experience and with which he has successfully treated

many cases of skin cancer of the superficial type. They are arsenous acid, caustic potash, zinc chloride and Pyrogallol. It will be noted that he mentions Pyrogallol last. (*Journ. Amer. Med. Assoc.*, Vol. XXXV, p. 1547).

Resinol is the name given to a secret proprietary agent recommended for all varieties of cutaneous diseases. On general principles then it may not be unexpected for some of the profession to discover unfortunate results as long as they are kept ignorant of its composition.

Dr. M. L. Heidingsfeld of Cincinnati, Ohio reports three cases of dermatitis traced to the use of this agent. He states that it "possesses dangerous antiseptic and anodyne properties." (*Cincinnati Lancet-Clinic*, Vol. XLV, p. 659).

Resorcin is still considerably used throughout the medical profession.

Dr. J. W. Wiltse of Albany, N. Y. read a paper before the Albany County Medical Society on "The Management and Treatment of Whooping Cough" in which he recommends the use of an acidulated solution of quinine and a one-third of one per cent. solution of Resorcin applied to the glottis every four hours throughout the day. If other conditions will admit of it he would advise the application to be made once or twice during the night. (*Albany Med. Annals*, Vol. XXI, p. 535).

Dr. Max Joseph of Berlin, Germany has used Resorcin with much success in the treatment of lupus vulgaris and in tuberculosis verrucosa cutis, according to the following formula:

Resorcin.	30.0	grammes (463.0 grains)
Zinc Oxide.....	20.0	" (308.6 ")
Starch.	20.0	" (308.6 ")
Vaselin, Yellow.....	to 100	" (about 3½ ounces)

This vaselin ointment is spread over the affected parts twice a day with good effect. (*Die Medicinische Woche*, Vol. for 1901, p. 228).

Dr. H. Bowen Williams of Lewisham, High Road, London, S. E. England reports "A Case of Rodent Ulcer Treated with Pure Resorcin." It was the case of a married woman 70 years old who had been suffering from a rodent ulcer on the left side of the nose for twelve years. It entirely healed up after applying powdered Resorcin for two months. (*Brit. Med. Journ.*, Vol. II for 1900, p. 1567).

Dr. Seymour Oppenheimer of New York City reports on "Resorcin as a Preservative for Suprarenal Extract Solution." (*N. Y. Med. Journ.*, Vol. LXXIII, p. 411).

"Bad effects following the use of resorcin as a cosmetic are reported from Paris. A woman who was an habitual user of hair dye had all the symptoms of chronic dyspepsia. In addition, during 3 years she had 16 attacks of erysipelas, for which no cause could be assigned. It was discovered that the source of the trouble was the resorcin contained in the hair dye. The patient stopped using the drug and gradually made a complete recovery." (*Amer. Med.*, Vol. II, p. 255).

Roentgen Rays (X-Rays) have been treated during the past year in a much more rational way than previously when the enthusiasm over their attractive features carried many observers beyond the bounds of reason.

Dr. Harvey P. Towle of Boston, Mass. has published "A Review of the Literature of the Therapeutic Use of the X-Rays" and draws the following conclusions: "(1) That the real nature of the x-rays is not yet determined definitely, nor whether the therapeutic action following their use is due to the action of the rays themselves or of something of electrical origin accompanying them; (2) that the treatment is not without danger, unless the greatest care is used; (3) that the effects of the x-rays remain for a long time, and recovery is very slow; (4) that whatever may be the exact origin of the effects produced, a definite reaction is caused in the skin by the use of the x-rays; (5) that the changes induced in the skin are similar histologically to those seen in ordinary inflammation; (6) that the x-rays are not proved to have any bactericidal power; (7) that their therapeutic effect is probably due to the inflammation excited; (8) that hair can be removed by their use, and that lupus and several other diseases can be healed over; (9) that in a few reported cases we may fairly assume that a permanent cure has been effected, but that in a majority of the reported cases too little time has elapsed to rule out the possibility of a return of the disease; (10) that the effect of exposure to the x-rays is so extraordinarily slow in disappearing that months should elapse before an absolute cure is assumed; (11) that while the permanency of the cure effected may perhaps be doubtful as yet, it is certainly desirable to experiment further." (*Boston Med. and Surg. Journ.*, Vol CXLIV, p. 343).

Dr. Francis H. Williams of Boston, Mass. continues to be interested in watching the effects of these Rays. He lays particular stress on the point that their results are not yet sufficiently understood, especially by the laity. He writes "The limitations and uses of the x-rays not being generally understood, x-ray examinations may and probably will be used to play upon the imagination and credulity of patients. To avoid this danger it is well for persons desiring to be examined by the x-rays, to bear in mind that, in medical cases, this method must be used by the physician, and in surgical cases its results must be interpreted by a surgeon."

Among surgeons also there has been like careful consideration of the whole subject and more rational conclusions drawn.

Dr. Hermann Kümmell of Hamburg, Germany reviews the subject of "The X rays in Practical Medicine." He rehearses the various applications in which definite results may be looked for. (*Berliner klin. Wochensch.*, Vol. XXXVIII, p. 43).

Dr. Eugene R. Corson of Savannah, Ga. published an article on "X-Ray Photography" in which he presents some valuable points for those who would seek an efficient apparatus to obtain the best results. He believes great progress may be expected in the future from the study of normal osteology and bone development by the use of these Rays. (*N. Y. Med. Record*, Vol. 59, p. 569).

Dr. Guion Thompson of New York City gives some "Practical Hints for X-Ray Workers." (*N. Y. Med. Record*, Vol. 58, p. 37).

Dr. Albers-Schönberg of Hamburg, Germany lays particular stress on the importance of "The Technique of Roentgen Examinations." He does not believe that a physician in private practice will ever be able to accumulate sufficient experience to be an expert in diagnosing by means of these Rays on account of the technical knowledge which seems to be necessary. (*Deut. med. Wochensch.*, Vol. XXVI, p. 772).

Dr. K. Ludloff of Königsberg, Prussia makes the suggestion to use an ordinary opera-glass when studying a Roentgen plate as the picture is seen far more distinctly in detail by observing through such a glass held from three to ten feet off. He claims that much will be discovered which would not be recognized without such assistance. (*Centralbl. für Chirurg.*, Vol. 28, p. 298).

The Roentgen Society has invited experts to send to their Chairman of the Committee on Standards any information they possess

on quite a number of interesting points, in order to determine some sort of a standard whereby future observations may be properly compared.

The Council of the same Society has announced that Dr. J. Macintyre of Glasgow, Scotland, their President, has offered an award of a gold medal to any maker of the best practical X-Ray tube for photographic and screen work.

Dr. Sträter of Berlin, Germany has written an article entitled "What Part Do the Tubes Play in the Therapeutic Application of the Roentgen Rays?" Those tubes whose Rays are largely absorbed by the skin and muscles he calls "soft." Those tubes which allow the Rays to pass through those tissues he calls "hard." In order to obtain only reliable information, he thinks an observer should pay particular attention to the use of the proper tubes for the special purpose in view. (*Deut. med. Wochensch.*, Vol. XXVI, p. 546).

It will be quite out of place to enumerate every reference made throughout the past year to the use of these Rays in the surgical line, and therefore only a few will be referred to here.

Dr. J. F. Baldwin of Columbus, Ohio reports on "Operating Under X-Rays," with the hope of interesting others for he believes that the case he reports is probably the first in which surgical work itself has been done under this light and with the aid of the fluoroscope. He states that: "All things considered, I never performed a more difficult operation. The room was necessarily dark, the day was hot, and the noise of the machine was almost intolerable, while the fear of infection from the suppurating wound, which was in close proximity to my own incisions, was constantly before me." Recovery was entirely uneventful. (*Journ. Amer. Med. Assoc.*, Vol. XXXVI, p. 1323).

Drs. G. Holz knecht and R. Kienboeck of Vienna, Austria have written "On the Technique of Roentgen Radiography," calling attention to the fact that clear outlines of certain parts cannot be obtained when the subject is breathing normally. They allude to the confusing motions obtained when viewing the shoulders and internal organs. The temporary suspension in breathing will distinctly clear up the picture in these cases, but no means has yet been suggested to control the peristalsis of the intestines. (*Wien. klin. Rundschau*, Vol. XV, p. 437).

In the Address of Mr. J. Mackenzie Davidson of London, England before the Surgical Section of the last annual meeting of the

British Medical Association at Ipswich, England, the use of the stereoscope was emphasized and a demonstration followed the reading of his paper.

An interesting discussion took place at the Thirteenth International Congress of Medicine held in Paris last August on the subject of Radiography in the study of fractures and dislocations in which Drs. G. Maunoury of Chartres, France and E. von Bergmann of Berlin, Germany took part. Both pointed out the importance of careful attention to the interpretation of the radiogram. (*Epitome of the Brit. Med. Journ.*, Vol. II for 1900, pages 27 and 28).

Dr. Robert Kienböck of Vienna, Austria relates his experience in "The Investigation of Sound and Diseased Spines by means of Roentgen Experiments," and presents eight cases. (*Wien. klin. Wochens.*, Vol. XIV, p. 405).

Dr. Carl Lauenstein of Hamburg, Germany recommends the placing of the Roentgen light between the knees of a patient when obtaining a radiogram of the neck of the femur. The patient reclines on his back with the thigh flexed and abducted. When similar skiagrams of normal individuals are used in comparison, abnormal conditions will be more readily detected. (*Centralbl. für Chirurg.*, Vol. 27, p. 1121).

Dr. Peter Bade of Hanover, Prussia has written a series of articles on "Roentgen Rays in Congenital Dislocation of the Hip." (*Wien. klin. Rundschau*, Vol. XIV, pages 893, 918 and 955).

Dr. J. Rudis-Jicinsky of Cedar Rapids, Iowa whose notes upon X-Rays and injuries to the head were alluded to here last year, has continued his observations on other parts of the body. He calls special attention to the treacherous nature of the X-Ray shadow and how necessary it is to have the patient in certain definite positions in order that there may be no exaggeration of the image. He continues his report on "The Value of the X-Ray in Surgery" by citing three illustrative cases and giving four excellent full page photographs. (*Annals of Surgery*, Vol. XXXIII, p. 749).

Dr. John Hall-Edwards, an English observer located at Deelfontein, South Africa relates his experience with "The X-Rays in South Africa." (*London Lancet*, Vol. I for 1901, p. 130).

Dr. W. F. Stevenson of Netley, England has written a letter to the Editors of the *Lancet* calling attention to the possible wrong impression that might be conveyed by Dr. Hall-Edwards' report. (*London Lancet*, Vol. I for 1901, p. 212).

Dr. Hall-Edwards later in the year makes another report after what he states to be his fourteen months' experience as X-Ray expert at the front in the War in South Africa. (London *Lancet*, Vol. I for 1901, p. 1755).

Dr. Samuel Lloyd of New York City has made quite an extensive study of the causes of disability following fractures involving the elbow joint, using the X-Rays to assist him. He publishes his results, giving twelve excellent photographs illustrative of his studies. (*N. Y. Med. Journ.*, Vol. LXXIII, p. 1017).

Mr. C. H. Golding-Bird of London, England, Surgeon to Guy's Hospital, has published some "Remarks on Skiagraphy and Fractures: Especially in Their Medico-Legal Relation" in which he very clearly describes the advantages and drawbacks in the application of these Rays to fractures. (*Brit. Med. Journ.*, Vol. I for 1901, p. 1390).

Dr. Hugh Walsham of London, England has written "On the Diagnosis of Thoracic Aneurysm by the Roentgen Rays," giving the notes of two illustrative cases with four photographs. (London *Lancet*, Vol. II for 1900, p. 1264).

Later, at a meeting of the Medical Society of London on January 14th, 1901, there was a discussion on the value of Skiagraphy in the diagnosis of Chest Disease in which Drs. Hugh Walsham and E. Clifford Beale took a prominent part. (London *Lancet*, Vol. I for 1901, p. 179).

Again Dr. Walsham contributed a paper "On the Diagnosis of Thoracic and Cardiac Aneurysm by the Roentgen Rays" to the *Edinburgh Med. Journ.* (Vol. IX, p. 355), giving nine photographs. Finally Drs. Beale and Walsham write on "The Diagnosis of Tubercular Disease of the Lungs by means of the Roentgen Rays." They show nine X-Ray photographs as illustrations, pointing out the difficulties and complicating shadows. (*The Practitioner*, Vol. LXVII, p. 57).

Dr. Wolf Becher of Berlin, Germany shows how "The Determination of the Inferior Border of the Stomach by means of the X-Rays may be Obtained." He introduces a soft stomach tube while the patient is standing upright before the X-Ray apparatus. By this plan its descent may be watched. Through this tube a mixture of bismuth subnitrate and water is poured into the stomach, and the shadow furnished gives a clear outline of the lower border. (*Deut. med. Wochensch.*, Vol. XXVII, p. 22).

Dr. Georg Gottstein of Breslau, Prussia reports the case of a "Foreign Body in the Cardiac Portion of the Stomach Diagnosed Through the X-Rays and the Esophagoscope. Gastrotomy, Recovery." The patient was a woman 25 years old who swallowed a set of artificial teeth. (*Deut. med. Wochensch.*, Vol. XXVII, p. 365).

Dr. Levy-Dorn of Berlin, Germany gives his observations on the "Practical Examination of the Chest by means of the Roentgen-Rays and Some Results," describing his apparatus. (*Deut. med. Wochensch.*, Vol. XXVI, pages 565, 584 and 599).

Dr. E. Gebauer of Charlottenburg, Prussia attempts to answer the query "Is the Illumination by the Roentgen-Rays Sufficient for the Differential Diagnosis between Aortic Aneurysm and Intra-thoracic Tumor?" He gives three cut-illustrations and answers the question in the negative. (*Deut. med. Wochensch.*, Vol. XXVI, p. 562).

Prof. Moritz of Munich, Bavaria describes "A Method by Roentgen Procedure to Ascertain by the Shadow of an Object its True Size, and the Correct Determination of the Size of the Heart by this Method." (*Muench. Med. Wochensch.*, Vol. XLVII, p. 992).

Dr. C. Mansell Moullin of London, England publishes his results in a series of cases illustrating very markedly the value of the Roentgen Rays in the diagnosis of renal, ureteral and vesical calculi. (London *Lancet*, Vol. I for 1901, p. 172).

Dr. J. W. Elliot of Boston, Mass. demonstrated a case of stone in the ureter by means of the X-Rays at a clinical meeting of the Medical Board of the Massachusetts General Hospital on February 8th last. He called attention to the fact that up to the date of his case there had been six cases of stone thus located in the ureter. Discussion followed. (*Boston Med. and Surg. Journ.*, Vol. CXLIV, p. 475).

Dr. Charles Lester Leonard of Philadelphia, Pa. has made a study of 136 suspected cases of renal or ureteral calculi in order to determine "The Value of the Roentgen Method of Diagnosis in Detecting and Excluding Renal and Ureteral Calculi." (*Annals of Surgery*, Vol. XXXIII, p. 435).

Drs. B. Norris Wolfenden and Forbes-Ross of London, England report the result of two years' study on "An Apparently Antagonistic Effect of X-Rays and Daylight upon Photographic Plates." (*Archives of the Roentgen-Ray*, Vol. IV, p. 15).

Dr. P. W. Bassett-Smith of the English Navy gives an account of

his researches on "The Effects of X Rays and Sunlight on Some Pathogenic Micro-Organisms." (*Archives of the Roentgen Ray*, Vol. V, p. 47).

Considerable discussion and writing has been going on during the past year in relation to the results following X-Ray light exposure. It is claimed by some observers that it will produce death and by others that there is practically no danger.

Drs. William Rollins and E. A. Codman of Boston, Mass. have had some discussion on this question which may be of interest to those who are following up this point. (*Boston Med. and Surg. Journ.*, Vol. CXLIV, pages 173, 197, 221, 285, 317 and 401).

Dr. J. Rudis-Jicinsky of Cedar Rapids, Iowa describes "The Electrochemical Action of the X-Rays in Tuberculosis." (*N. Y. Med. Journ.*, Vol. LXXIII, p. 364).

Dr. Francis H. Williams of Boston, Mass. contributes a "Note on the X-Rays as a Curative Agent in Certain Diseases of the Skin." (*Boston Med. and Surg. Journ.*, Vol. CXLIII, p. 579).

The treatment of lupus by these Rays has taken such prominence throughout the medical world that an increasing number of observers are reporting their results, so that it will be quite impossible to enumerate here all the reports that have been published. A few selected ones however may be of interest to some.

Dr. Josef Jutassy of Szabadka, Hungary reports his successful treatment of five cases of skin affections as follows: one each of lupus vulgaris, lupus erythematosus of the nose and face, chronic eczema of the hand, hypertrichosis of the face and neck and nævus flammeus (port-wine mark). *Wien. klin. Rundschau*, Vol. XIV, p. 635).

Dr. J. T. Knox of Cincinnati, Ohio reports a case of lupus vulgaris with cure when treated with X-Rays. He relates an illustrative case showing photographs of the "before and after." (*Journ. Amer. Med. Assoc.*, Vol. XXXV, p. 1210).

Dr. William Allen Pusey of Chicago, Ills. relates the clinical history of a case of "Lupus Healed with Roentgen Rays." He also gives illustrations of the "before and after." (*Journ. Amer. Med. Assoc.*, Vol. XXXV, p. 1476).

Dr. A. Everett Smith of Olean, N. Y. reports a case of "Lupus Vulgaris of Fifteen Years' Standing Successfully Treated and Cured by Exposure to X-Ray." He also illustrates with cuts "before and after." (*Buffalo Med. Journ.*, Vol. LVI, p. 381).

Dr. David Lieberthal of Chicago, Ills. relates "A Case of Epithelioma Developed on the Basis of a Healed Lupus Vulgaris Treated by X-Rays." Two photographs are shown. (*Journ. Amer. Med. Assoc.*, Vol. XXXVI, p. 1464).

Dr. Wallace Johnson and Mr. Walter H. Merrill of Washington, D. C. report the results of several cases where the X-Rays were used in the treatment of carcinoma. (*Phila. Med. Journ.*, Vol. 6, p. 1089).

Dr. Francis H. Williams of Boston, Mass. contributes a short "Note on the Treatment of Epidermoid Cancer by the Roentgen Rays" which he states simply expresses his personal conviction of the value of these Rays and that he is now enabled to give definite results in more detail. (*Boston Med. and Surg. Journ.*, Vol. CXLIV, p. 66).

Mr. Andrew Clark, Surgeon to the Middlesex Hospital (England) records a case showing "The Effect of the Roentgen Rays in a Case of Chronic Carcinoma of the Breast." Two cuts are presented. (*Brit. Med. Journ.*, Vol. I for 1901, p. 1398).

At the regular meeting of the Association of American Physicians held in Washington, D. C. on April 30th last, Dr. Francis H. Williams of Boston, Mass. read a paper on the "Treatment of Some Forms of Cancer by the X-Rays." A short abstract will be found in the *N. Y. Medical Record* (Vol. 59, p. 756).

Dr. William S. Gottheil of New York City has written an article on "Actinotherapy in Cutaneous Medicine, A Preliminary Communication" in which he gives a very clear photograph of the "Actinolyte." (*Med. News*, Vol. LXXIX, p. 2).

Drs. E. Schiff and L. Freund of Vienna, Austria have written a paper on the present status of Radiotherapy in which they attempt to show that this method is preferable to the Finsen method, chiefly on account of its simplicity, and that they were the originators of the Roentgen Ray method in dermatology. (*Wien. klin. Wochens.*, Vol. XIII, p. 827).

Salipyrin (reported to be a true Salicylate of Antipyrin) continues to be kept before the profession by those who are interested in promoting its use, but little else has occurred in the medical literature as to its individual use except what seems to be a repetition of older reports.

Salol (Phenyl Salicylate) is still a favorite antipyretic, especially in children.

Dr. Charles Begg of Bath, England again reports his successful use of this agent in the treatment of smallpox, and prefers it in these cases to either salophen or phenol. He called attention to this last year and allusion was made to it here. (*Brit. Med. Journ.*, Vol. I for 1901, p. 132).

Dr. Teschemacher of Neuenahr (near Bonn) Rhenish Prussia reports his observations "On Salol in Diabetes Mellitus." He made use of it in eight cases, five of which were improved but in three there was no action whatever. He administered comparatively large doses using 1 gramme (15.4 grains) three or four times a day and continuing in some cases six days. He points out one interesting feature—the sugar present in the urine is found inverted. (*Therap. Monats.*, Vol. XV, p. 23).

Drs. P. Nobécourt and Prosper Merklen of Paris, France have carried on a series of investigations on the "Value of Experiments with Salol in the Clinical Study of the Functions of the Pancreas" in which they seem to prove that clinically the use of Salol has no value in exploring those functions, as the splitting up of the Salol is found to take place lower down in the alimentary tract than the stomach for even a very weak acidity prevents such a reaction. (*Gaz. hebdom. de Méd. et de Chirurg.*, Vol. 48, p. 553).

Salophen (Acetyl-Para-Amido-Salol) is still largely used throughout the medical profession in general. It has become so well recognized in most quarters that little special reference is now made to it. However it may be of interest to note here that Dr. Alessandro Ghetti reports his successful use under the head of "A new cure for Sciatica." He used it hypodermically in the case of two Italian peasant women who had been suffering severely with sciatica for fifteen years and had tried most of the remedies generally used. At the time Dr. Ghetti first saw these women they showed some atrophy of the muscles of the legs and walking was becoming more and more difficult. A solution made up with sterilized water rendered alkaline in the strength of 10 per cent. was injected hypodermically into the gluteal muscles. The pain greatly diminished after the sixth injection. The sensitiveness of the skin proved to be normal after the fifteenth injection, and walking was accomplished much more comfortably. The injections were made every other day after the thirtieth and the women were reported cured. (?) Dr. Ghetti saw those women fourteen months after they left his care and they were then perfectly well and had been so since

he last treated them. He admits that two cases do not enable him to draw too broad a conclusion, but as those two were of such long-standing when he took charge and the pain was so severe, he thinks he feels justified at least in recommending a more extended trial. (*Gaz. degli Osped. e delle Cliniche*, Vol. XXI, p. 1195).

Sanatogen (Sodium and the Casein Glycerino-Phosphate prepared from Milk Casein) has not been heard of in the medical literature of the past year.

Sanose (the albuminous preparation containing 80 per cent. Casein and 20 per cent. Albumose, which is not a chemical combination but rather a mechanical mixture) is still being kept before the medical profession by those who are interested in promoting its use, but little individual reference is made to it specially.

Sapodermin (Albuminate of Mercury) has been practically unheard of in the medical literature of the past year.

Silberol (Silver Sulpho-Carbolate) although known for some years past, especially in the treatment of gonorrhea, is now being brought somewhat into prominence again by its use in the practice of the ophthalmologist. It is claimed to be a powerful antiseptic but with less causticity than silver nitrate. More definite clinical data should be forthcoming.

Somatose (the tonic and nutrient) is still being kept before the medical profession by those who are interested in promoting its use, but little individual reference is made to it specially. A liquid form is now being offered which is stated to have a pleasant meaty flavor which lends to its attractiveness as a tonic. This liquid is claimed to be sterilized and thereby its keeping properties are promoted for some days.

Soziodol (Di-Iodo-Para-Phenol-Sulphonic Acid) containing 54 per cent. of iodine, 20 per cent. of phenol and 7 per cent. of sulphur, is being used in combination with such bases as ammonium, lead, mercury, potassium, sodium and zinc. The sodium salt however appears to furnish the most effectual antiseptic dusting powder.

Dr. J. Segel of Vienna, Austria has written on "The Therapeutic Uses of Soziodol Preparations." (*Wien. medicin. Blätter*, Vol. XXIII, p. 719).

Sulphonal (Di-Ethyl-Sulphon-Di-Methyl-Methane) only calls for special reference here to record two reports of unfavorable effects. The first is that of Dr. Fakeerooddeen Hossain Khan of Hyderabad, Deccan, India who reports on "Oedema of Lower

Limbs Produced by One Dose of Sulphonal" in the case of a man forty-eight years old who had complained of insomnia. He had been given 1.3 gramme (20 grains) at bedtime. This unfortunate result appeared early the next morning after a very restless night. (*Indian Med. Record*, Vol. XIX, p. 263).

The other report was "A Fatal Case of Hæmatoporphyrinuria" reported by Dr. Henry Waldo of Bristol, England to illustrate the necessity of care in the administration of Sulphonal. The case was that of a single man 33 years old who, lacking occupation of any kind, was suffering from dyspepsia and giddiness. (*Brit. Med. Journ.*, Vol. I for 1901, p. 1473).

Tannalbin (a compound of Tannin and Albumin) has not been heard of directly in the medical literature of the past year.

Tannigen (Di-Acetyl-Tannin)—the odorless and tasteless form of Tannin, insoluble in water and acids but readily soluble in alkaline solutions—is still being quite largely used, but calls forth little special clinical reports. It appears to be most successfully employed in the simple diarrheas of children, and Dr. Eugen Sieger of Vienna, Austria praises it highly in such cases. He also finds it a very efficient tonic and styptic in the diarrhea accompanying pulmonary tuberculosis, tuberculous peritonitis and acute and sub-acute enteritis. (*Wien. medicin. Blätter*, Vol. XXIII, p. 735).

Tannoform (the condensation product of Tannin and Formaldehyde) is still largely employed but has had few reports upon its usefulness during the past year.

Dr. J. Strasburger of Bonn, Rhenish Prussia has made successful use of it in the treatment of the night sweats accompanying pulmonary tuberculosis. He has tried most other forms of formaldehyde and has finally settled down to this one as being most useful. He applies it in the form of a dusting powder made up in the strength of 1 to 3, and spread on a pad of cotton wool. He urges others to try it. (*Therap. Monats.*, Vol. XV, p. 109).

Dr. A. Nolda of Montreux, Switzerland reports upon its use in twelve cases similar to those of the previous observer. Eight were mild cases and in six of them the night sweats were checked after from three to five applications, and in one eleven applications were required. In the eighth case he reports that although improvement was evident the Tannoform had to be discontinued on account of the burning and itching sensation produced. Four out of the twelve cases were severe—three proved to be successfully treated and only

one partially so. (*Berliner klin. Wochensch.*, Vol. XXXVIII, p. 698).

Tannopin (Hexa-Methylene-Tetramine-Tannin)—the condensation product containing 87 per cent. of Tannin and 13 per cent. of Urotropin (Urotropin-Tannin)—has received practically no individual attention during the past year. What little has appeared is more in the way of repeating older references.

Terpinol (produced by the action of dilute sulphuric acid on Oil of Turpentine) has not been heard of in the medical literature of the past year.

Thiocol (Potassium Sulpho-Guaiacolate, containing 60 per cent. of Guaiacol) has taken quite a prominent position during the past year.

Dr. J. Braun reports on "The Results of the Treatment of Tuberculosis by Thiocol" and states that it is much less objectionable to patients in the way of taste than the other guaiacol or creosote preparations. He found it acted most effectually in advanced cases. (*Klin.-therap. Wochensch.*, Vol. VII, p. 1190).

Dr. Hélène Kaplansky presented a thesis to the University of Paris (France) in which the entire literature of Thiocol is reviewed in a more or less comprehensive way, especially in relation to the experiments on animals. She follows this up with the clinical history of seven cases of children under her own care in L'Hôpital Trousseau. (*Dominion Med. Monthly*, Vol. 16, p. 84).

Thiol (synthetic Ichthyol) is still considerably used but little special comment has been made concerning it throughout the past year.

Thymol is only mentioned here to call attention to two combinations brought forward during the past year.

The product obtained by the condensation of Thymol and Chlor-Methyl-Salicylic Acid is claimed to possess remarkable antiseptic properties. It is reported to be offered in the form of a colorless crystalline powder, soluble in alcohol, ether and diluted alkaline solutions but insoluble in water. With alkalis salts are formed which are soluble in water. The other combination is Carbonate of Thymol and has been recommended as a most efficient vermifuge. Mr. J. E. Pool of Paramaribo, Dutch Guiana is the only one apparently who has reported on this use of it under the head of "Thymotal; A New Remedy for Ankylostomiasis." (*Med. News*, Vol. LXXVIII, p. 332).

Thyroid Extract (Thyro-Iodin) is still a prominent subject for discussion and observation throughout the medical profession.

Observers are still striving to establish this method of medication on a scientific basis, but those who are most enthusiastic and have done the most scientific work in this line do not feel justified yet in suggesting the use of extracts of the kidneys, liver, heart, spleen, brain or spinal cord in the treatment of affections in these organs.

Dr. David Hansemann delivered an address before the Association of German Naturalists and Physicians at Aachen, Rhenish Prussia on September 21st last, pointing out the therapeutic use of glandular structures and the problems involved. (*Berliner klin. Wochensh.*, Vol. XXXVII, pages 901 and 932).

Dr. P. Blaikie Smith at San Remo, Italy has written an article on "Thyroid Extract as a Remedy, with Illustrative Cases." He relates the clinical history of three cases and concludes as follows:

"I have used thyroid extract in several other cases of obesity, but in none were the results so satisfactory as in the instance just detailed. Possibly the patients failed to carry out the treatment faithfully and for a long enough period, not recognising that the fat-reducing properties of the remedy are by no means energetic, and at first may be almost imperceptible.

These three cases seem to me to afford very marked testimony in favour of the power of this remarkable drug. At the same time it must be admitted that results such as I have narrated are by no means invariable even in cases which are similar, and it is to be regretted that the absence of definite knowledge as to the physiological action of thyroid gland when administered internally renders its use in practical medicine generally so uncertain, so inconstant, and so empirical." (*Brit. Med. Journ.*, Vol I for 1901, p. 388).

Dr. George R. Murray of the University of Durham, Newcastle, England has written on "The Therapeutic Uses of Thyroid Extract." He points out the contra-indications as well as the indications for its use. (*The Practitioner*, Vol. LXVI, p. 389).

Dr. Hiram Elliott of Troy, N. Y. read a paper on "The Present Status of the Thyroid Extract in Therapeutics" before the Brooklyn Neurological Society on December 27th last, and concluded as follows:

"I might cite many other cases, but they will serve only to corroborate what has been said. It remains only to sum up by saying that the thyroid extract is a powerful alterative possessed, it is

true, of some toxic properties, which may disappear under better methods of obtaining the drug, but it has already proven itself to be of great service in the treatment of insanity. These cases, as I have said, are curable forms after the acute symptoms have passed by and there are beginning signs of chronicity. In other words, administer thyroid late rather than early in mental disorders." (*Brooklyn Med. Journ.*, Vol. XV, p. 197).

Dr. Wlad. Mladějovsky of Prague, Bohemia has written "On a New Method of Reducing Obesity." He combines small doses of Thyroid Extract with quinine theobromine and a course of mineral water, and reports remarkably good results, stating that his cases lose from one to three kilogrammes (about $2\frac{1}{4}$ to $6\frac{3}{4}$ pounds) a week. (*Wien. medicin. Blätter*, Vol. XXIV, p. 59).

Dr. Leonard Weber of New York City relates his "Personal Experiences with the Use of Thyroid Extract in Psoriasis." (*The Post-Graduate*, Vol. XV, p. 1103).

Dr. John H. Musser of Philadelphia, Pa. reports several cases of cretinism as near as could be judged, in which Thyroid Extract was successful. (*Inter. Med. Mag.*, Vol. IX, p. 804).

Dr. H. Neumann of Berlin, Germany gives his "Results in the Treatment of Sporadic Cretinism with Thyroid Extract." (*Berliner klin. Wochensch.*, Vol. XXXVII, p. 1121).

Dr. Arthur Jaenicke of Breslau, Prussia reports on "The Effect of Thyroidin Preparations in Certain Rare Cases." One was a case of mammary tumor in a woman, two were cases of large lymphomata and three were cases of pronounced spleen enlargement. The detailed history was given in each case. (*Centralbl. für innere Medizin*, Vol. 22, p. 47).

Dr. G. Ernest Herman of London, England reports "Four Cases of Recurrent Mammary Carcinoma Treated by Oophorectomy and Thyroid Extract." (*Brit. Med. Journ.*, Vol. II for 1900, p. 1167).

Mr. F. G. Haworth of Darwen, England reports a case of apathy following the use of Thyroidin in which he states the symptoms were altogether different from those given in textbooks, and at variance with his previous experience. (*Brit. Med. Journ.*, Vol. II for 1900, p. 582).

Mr. Walter Edmunds, Surgeon to the Tottenham Hospital (London) delivered the Erasmus Wilson Lectures on the Pathology and Diseases of the Thyroid Gland before the Royal College of Sur-

geons of England in February last. (London *Lancet*, Vol. I for 1901, p. 1317). The *Lancet* very pertinently "draws attention to many important points in the pathology and diseases of the thyroid gland. In regard to treatment he makes one suggestion to which the attention of those who practise homœopathy may be particularly drawn. Mr. Edmunds says: "With respect to cases of operative goitre without symptoms—that is to say, cases in which the presence of the goitre is the only trouble—it seems now to be clearly established that the administration of thyroid gland is the best treatment." This statement at first sight would seem to support the homœopathic doctrine that "like cures like," but the lecturer's further remarks tend to show that this method of treatment offers an excellent example of the futility of the homœopathic creed: "The effects of this treatment are so good that it [thyroid gland administration] must be regarded as a specific remedy; if it is, the enlargement of the thyroid gland must, in part at least, be attributed to an attempt at compensation and that attempt must be unsuccessful, for otherwise the increase in size would not proceed to the large dimensions that it does." Far, then, from being an instance of "like curing like" the administration of thyroid gland in cases of goitre is an example of modern therapeutics in which the products of a secreting gland being in abeyance the deficiency is supplied by obtaining such products from other sources and giving them to the patient, so providing substances which are necessary to the well-being of the organism. This method of procedure is adopted, then, with that idea and not with the object of "curing" the morbid condition of the gland." (London *Lancet*, Vol. I for 1901, p. 1613).

Trional (Di-Ethyl-Sulphon-Methyl-Ethyl-Methane) is still a very prominent article to the medical practitioner.

Dr. Corrado Ferrarini of Lucca, Italy describes "A Practical Method of Administering Trional to the Insane." He has found by close observation that Trional is more easily absorbed in the presence of carbon dioxide, and therefore a smaller dose can be given. Thus it is that he employs some effervescing mineral water such as a magnesia solution to enhance its effects. (*La Riforma medica*, part 2 of Vol. XVI, p. 402).

Dr. Ropiteau, a student in Paris, recommended in his thesis a combination of Trional and Paraldehyde which produces a most effective hypnotic. He suggests a certain formula for a solution,

for an emulsion, for a suppository and for capsules. (*Therap. Monats.*, Vol. XV, p. 219).

Dr. Stuart Hart of New York City reports a case of "Multiple Neuritis and Hæmatoporphyrinuria Following the Prolonged Ingestion of Trional." (*Amer. Journ. Med. Sciences*, Vol. CXXI, p. 435).

Dr. M. Rosenfeld of Strassburg, Germany reports a fatal case of Trional intoxication in a woman 28 years old. On post-mortem examination it was found that some of the organs were not fully developed, but on the other hand there were no pathological changes. (*Berliner klin. Wochensch.*, Vol. XXXVIII, p. 547).

Tuberculin (Parataloid) has not received as much individual attention during the past year, but it is still a very prominent article before the medical profession.

Dr. Koch, during the last few months, has undoubtedly brought up the subject in such a way as to compel more detailed consideration.

Mr. Sheridan Delépine, Professor of Pathology in The Owens College, Manchester, England, has published "A Practical Note on the Application of the Tuberculin Test in Cattle." (*Brit. Med. Journ.*, Vol. II for 1900, p. 1201).

Dr. Albert Fraenkel of Badenweiler, Germany believes that the reaction against the use of Tuberculin has gone too far and claims that it will give most valuable information with very little risk, if properly and carefully administered. He has therefore written an article on "The Diagnostic Value of Koch's Tuberculin." He is convinced that entirely too large doses have been customary. (*Zeitsch. für Tuberk. und Heilstätt.*, Vol. I, p. 291).

Dr. Ph. A. Dombrowsky reports on "The Diagnostic and Prophylactic Significance of Koch's Tuberculin." (*Phila. Med. Journ.*, Vol. 7, p. 565—Abstract from *Vratch*, Vol. XXII, No. 1 for January 6th, 1901).

Dr. Edward O. Otis of Boston, Mass. has published some "Further Notes upon the Diagnostic Test of Tuberculin." (*Med. News*, Vol. LXXIX, p. 281).

Dr. Edward F. Maynard of Brighton, England reports on "The Use of Tuberculin in the Treatment of Lupus Vulgaris," giving the clinical history of one case. (*Brit. Med. Journ.*, Vol. II for 1900, p. 1777).

Dr. Charles Herbert Gunson of the North Cambridge Hospital

(England) reports a case of lupus treated with Tuberculin. (*Brit. Med. Journ.*, Vol. I for 1901, p. 341).

Drs. Charles H. Frazier and Montgomery H. Biggs of Philadelphia, Pa. have made "A Preliminary Report" on "The Value of the Tuberculin Test in the Recognition of Latency or Quiescence in Tuberculosis of the Bones and Joints." They furnish a series of tables showing the results of the reactions. 78 per cent. of the "recovered," 100 per cent. of the "quiescent" and 80 per cent. of the "active" cases responded in a positive way. (*Univ. of Penn. Med. Bull.*, Vol. XIV, p. 13).

Drs. Max Beck and Lydia Rabinowitsch of Berlin, Germany have made a study of the diagnostic value of the Arloing-Courmont serum reaction in both human and animal tuberculosis as compared with Tuberculin, in which they appear to prove that Tuberculin is practically reliable whereas the serum is useless. (*Deut. med. Wochens.*, Vol. XXVII, p. 145).

Dr. E. Caillaud of St. Germainmont, France reports his results in the use of Tuberculin T. R. in five cases of pulmonary tuberculosis and in two of tuberculosis of bone. One of the pulmonary cases very markedly improved, one slightly improved and the remaining three showed no change. The two bone cases showed very marked improvement, and he reports this has been maintained now for over three years. (*La Méd. Moderne*, Vol. 12, p. 169).

Dr. Goetsch of Slawentsitz, Upper Silesia has just reported the results of his ten years' experience with Tuberculin. These results are based on 224 hospital cases. His method differs quite radically from that of Koch and his followers. He makes use of three fundamental principles:

1. Never use an injection of Tuberculin, no matter how small, upon a patient with the slightest rise in temperature. If the fever present cannot be checked by remaining in bed and with the aid of cold packs, Tuberculin should not be made use of.

2. The dose should never be increased under any conditions when the dose just preceding has produced any reaction whatever.

3. The patient must be confined to bed on the day the injection is made and on the day following. If this precaution be not taken a reaction may follow. By following the above precautions, Dr. Goetsch has found that remarkably large doses of Tuberculin may be administered without any ill-effects. Unfortunately Dr. Goetsch was only enabled to carry on his observations for a single year when

the marked reaction set in against the use of this agent, but when patients began to come back to him later he observed that they quite invariably came through patients whom he had treated and even cured in the year 1891. (*Deut. med. Wochensch.*, Vol. XXVII, p. 405).

It may not be out of place under this heading to add a few lines regarding the increased amount of recognition being given to the open-air treatment of tuberculous diseases, as well as the hygienic treatment. To this end the remarks of the Editor of the London *Lancet* (Vol. II for 1900, pages 1883 and 1884) in reviewing the year's accomplishment for 1900 may be quoted here:

"In reviewing treatment during the year 1900 attention may justly be directed first to the development of those means which claimed our chief attention in the preceding year. The hygienic treatment of tuberculous disease in its various forms has passed from the phase of controversy and ardent partisanship to that of definite trial on our own soil, and important conclusions have already been arrived at, both as to the best means of carrying out the method and as to the particular types of case which may be expected to respond satisfactorily or otherwise. Whatever may be finally settled by a comparison of results in regard to the relative value of different climatic conditions it has been pretty well established that the essentials of open-air treatment are at hand in most districts of Great Britain and Ireland. The physical conditions which offer the greatest difficulties to the practical therapist and are the most prejudicial in recent experience to the patients are heat and wind, and these are not more prevalent here than in most parts of the continent. Among the types of case regarded as unfavourable for a somewhat rigorous course of treatment, in which exposure and over-eating constitute the most prominent factors, are chronic forms and those complicated with catarrh of the bronchial or gastric mucous membrane. Besides these, acute cases and such as are attended with complications do better by postponing the course of hygienic treatment till the more active manifestations have subsided. It has been found that many forms of tuberculous disease other than phthisis, particularly those affecting the skin, bones, joints, and serous membranes, may be beneficially influenced by open-air treatment, and the same may be said of many general diseases such as anæmia, cachexia of various kinds, and even the acute fevers and functional nervous disorders; the feeling of well-being,

increased appetite, and improved sleep resulting from systematic exposure reacting favourably on all these conditions. There is no doubt that a well-organised institution under a firm and judicious chief affords many of the advantages of foreign travel and residence without the vicissitudes, defective dietary, fatigue, absence of good continuous medical advice and supervision, and separation from friends which detract so much from this manner of treating invalids. The apprehension of the sick lest they should be ill, or perhaps die, far from home which has deterred many from trying the effect of a sea-voyage or foreign residence is removed by the institution of sanatoria at home."

"Many observers have reported on the treatment of pulmonary tuberculosis by the "open-air" method. This therapeutical measure seems to meet with increasing favour, and numerous sanatoria for the reception of phthisical patients are being built in different parts of the country that offer satisfactory sites in reference to exposure and soil."

Urotropin (Hexa-Methylene-Tetramin)—formed by the union of Formaldehyde and Ammonia—continues to receive prominent attention throughout the medical profession and with quite universally favorable reports.

Apparently the most favorable results come from those cases which have been treated for affections of the bladder and pelvis of the kidney in which bacteria are found in the urine. If however the bacteria are confined to the bladder tissues as in tuberculous and gonorrheal cystitis, this agent appears to be of very little value.

Dr. P. J. Cammidge of London, England has written an article on "Urotropin as a Urinary Antiseptic." He concludes as follows:

"As a urinary antiseptic urotropine appears to be much superior to those usually employed (e. g., salol, ammonium benzoate, boric acid, guaiacol, naphthalin, and resorcin), especially when the acidity of the urine is insured by suitable means. It is not, however, only a curative agent in the ordinary forms of urinary infection that the advantages of the drug are so apparent, but in typhoid fever it may be employed from the third or fourth week onward to the advantage both of the patient and the community at large. Recent researches have shown that typhoid bacilli occur much more frequently in the urine than has been generally supposed and that they may persist for very long periods after convalescence (five

years). By the systematic use of urotropine in all cases the very real danger from this source which is so frequently overlooked may be entirely avoided." (London *Lancet*, Vol. I for 1901, p. 174).

Dr. Zaudy of Göttingen, Prussia describes the "Prophylactic and Curative Effect of Urotropin" in a case of paraplegia where there was prostatic abscess and urethra infection. (*Deut. med. Wochensch.*, Vol. XXVI, p. 589).

Dr. Canali, an Italian observer, reported at a meeting of the Medico-Chirurgical Association on August 3rd last the case of a patient who had been suffering for three years from renal colic and was put upon treatment with this agent with the result that he began to pass small uric acid calculi after ten days. The pains gradually disappeared and in a month's time he was reported cured. (*Gaz. degli Osped. e delle Cliniche*, Vol. XXI, p. 1040).

Dr. Emil Suppan of Vienna, Austria has written "On the Therapeutic Value of Urotropin." He does not claim everything for this agent, but believes it has special value as an adjuvant in treating cystitis requiring irrigation. He has prescribed it in seventeen cases of cystitis and in seven cases of persistent phosphaturia following chronic diarrhea, and has seen very prompt and effectual results follow after its use. (*Wien. medicin. Blätter*, Vol. XXIII, p. 442).

Dr. Edward L. Keyes, Jr. of New York City read a paper before the American Association of Genito-Urinary Surgeons at their last meeting on "The Clinical Effects of Ammonio-Formaldehyde (Urotropin)" (*Journ. of Cutaneous and Genito-Urinary Diseases*, Vol. XVIII, p. 426).

Dr. J. Pollock Simpson, an English observer, reports on the "Beneficial Action of Urotropin on Pyelitis; also in Cystitis with Frequency of Micturition." (*The Therapist*, Vol. XI, p. 81).

Dr. Berthold Goldberg of Cologne, Rhenish Prussia reports on the use of this agent in cystitis. Out of 54 cases of cystitis due to primary bacterial invasion of the healthy organs, 40 per cent. were completely cured and the remainder markedly improved. (*Centralbl. für innere Medizin*, Vol. 21, p. 713).

Before the Surgical Section of the Thirteenth International Congress of Medicine held on August 7th last, Dr. J. Janet of Paris, France expressed his preference for Urotropin over salol. (*Le Bull. Médical*, Vol. 14, p. 1113). At the same meeting Dr. A. Hogge of Liège, Belgium reported that his use of this agent for

more than a year past had been very successful, and also expressed his preference for it over salol. (*Le Bull. Médical*, Vol. 14, page 1114).

Dr. Hans Curschmann of Leipzig, Germany has published a review of the literature "On Cystitis Typhosa" and reports that the use of Urotropin stands first among the agents he employs. (*Muench. Med. Wochensch.*, Vol. XLVII, p. 1449).

Dr. F. Suter of Basel, Switzerland has written an article on "Urotropin" which may be of interest to some. (*Correspondenz-Blatt für schweizer Aerzte*, Vol. XXXI, p. 37).

Dr. Schumburg of Hanover, Prussia has made some investigations in disinfecting typhoid urine with Urotropin with the result that he believes it to be unreliable. (*Deut. med. Wochensch.*, Vol. XXVII, p. 134).

Dr. W. Langdon Brown of London, England calls attention to two cases of "Hæmaturia Following the Administration of Urotropin." He concludes by stating that this untoward effect cannot be common, for out of 82 cases of enteric fever treated under his observation Urotropin was given in 13. In one only did hæmaturia occur, but the patient was taking turpentine at the same time. (*Brit. Med. Journ.*, Vol. I for 1901, p. 1472).

Four letters followed up the reporting of Dr. Brown's cases which will be of interest to those who are studying this question. They will be found in the *British Medical Journal* (Vol. I for 1901, pages 1617 and 1659).

Validol (Menthol Valerianate) has not been heard of throughout the year in the current medical literature.

Weights and Measures by the **Metric System** have gained considerable ground during the past year and many evidences point towards some definite steps to be taken in the very near future to accomplish the long-delayed end in view which will result in a uniform system throughout the commercial and scientific world. An interesting comment and short abstract of a recent work by Mons. Bigourdan entitled "Le système métrique des poids et mesures. Son établissement et sa propagation graduelle, avec l'histoire des opérations qui ont servi à déterminer le mètre et le kilogramme" is found in *The Popular Science Monthly* for November 1901 (Vol. LX, p. 89) and is of sufficient interest to warrant quoting here: "To one of scientific tastes, who at the same time welcomes the recent American renaissance of the historical

novel, or to one whose faith in the common sense of his countrymen may waiver on considering their apathy towards the metric system, a recent work by M. Bigourdan will have great fascination. Nor are these words carelessly chosen, for a more fascinating work on any phase of the history of science has not appeared in recent years. It is true that the topic seems trite enough. All the world knows the story, or thinks it does; the French revolution, the general upheaval, the different systems proposed, Méchain's mistake in the longitude of Barcelona, the consequent error in the meter, the final adoption of the system by a large majority of the civilized countries, all this is familiar. But one has only to read a dozen pages of M. Bigourdan's work to find himself in the midst of a wealth of interesting history of which he probably never even heard.

The fact is, it needed some one connected with the Paris Observatory to write such a work, and even he could not have done it until of late. For although the observatory has long had in its possession the original documents deposited there by virtue of a decree of the year 12, it is only recently that it received the valuable manuscripts relating to the early history of the system, which were given by Mme. Laugier, who had received them from her father, M. Mathieu, who in turn had them from a no less important actor in the drama than M. Delambre himself.

It is impossible to give in a few words any worthy *résumé* of the work, or adequately to speak of its style. It opens with a chapter on the precursors of the reform, going back even to the system under Charlemagne, to the effects of feudalism and to the efforts of such early leaders as Mouton, Huyghens and Wren. This is followed by a statement of the action of the Assembly on Talleyrand's proposition, the history of the provisional meter, the work of the temporary commission, the efforts at nomenclature and so on through the establishing of the system on a scientific foundation. Then come the long story of its adoption by France, ending with the law of July 4, 1837; the longer story of its struggles for recognition in other countries, and the later history of the International Bureau and its remarkable metrological labors at St. Cloud.

Still less is it possible to give, in the limited space at command, any idea of the thrilling historic action so unassumingly stated in the documents at M. Bigourdan's command. The difficulties

of men like Delambre and Méchain, unable to make surveys without being suspected of signaling to the enemy, arrested as spies because they wished to visit their triangulation stations, imprisoned, insulted, limited in the bare necessities of life, the only wonder is that other errors than that of Méchain did not find frequent place in the work. 'I am an academician,' said Delambre to a sansculotte who examined his passports. "There isn't any *Cadémie*, no *Cadémie* at all,' blurts out the surly guard; 'all the world's equal. You come along with us!'

To the American scientist, educator or promoter of foreign trade, however, the chief interest in the work lies in the story it tells of the adoption of the system by most of the non-English-speaking countries of the world. The common objections of those who have given the subject little thought, objections to nomenclature, to the magnitude of the units, to the difficulty of educating the people, to the error in the meter, objections which have been so thoroughly considered in the century past and in so many countries, and which have proved of so little consequence—these are considered fully and judiciously. It will be unfortunate if some of the societies interested in the progress of the system do not arrange for translating the entire work, both for the enlightenment of those who have given the subject little attention and for the help of those who believe that America can no longer afford to stand out against a system which the great majority of civilized nations are using."

In Great Britain and in fact throughout the British Empire an increased amount of pressure is being brought to bear on the authorities to make a change from their present cumbersome system. *Nature* (Vol. 62, p. 374) contains the following information:

"Some interesting information as to the actual experience of nations who have adopted the metric system is given in a number of reports from Her Majesty's consular and other officers in Europe, which have just been brought together and published by the Foreign Office. H. M. representatives in twenty-two states were asked to give information upon the following points. (1) The ease or difficulty with which the change of systems was made, the manner of introduction of the metric system, and the time occupied in making the change; (2) How far the metric system is satisfactory in its practical operation, and whether there is any desire to return to former systems; (3) As to the effect the adoption of the metric system has had upon the commerce of the nations adopting it. The

answers received to these questions go to show that the best way to introduce the metric system is to make it compulsory after a specified period. The change from the old to the new system is slow in country districts, but as new generations come on familiar with the metric measures the old measures gradually drop out of use. In Turkey, the difficulties of enforcing the system upon an ignorant and illiterate people have proved insurmountable; but in the majority of States from which information has been received, the system is becoming more extensively used every day. Once the system has been adopted there is no desire to return to the old measures, and the effect upon commerce is always beneficial. In fact, the reports greatly strengthen the position of those who urge that the metric system should be adopted in England, if only for the sake of British trade."

Later the same authority printed the following: "The report of the Decimal Association records the progress made in the provision of instruction in the metric system of weights and measures, and the adoption of the system. By an article introduced into the code of elementary schools in 1900, instruction in the principles of the metric system, and in the advantages to be gained from uniformity in the method of forming multiples and submultiples of the unit, is made obligatory in the upper standards. Negotiations are in progress for bringing about a conference in Paris of official delegates and others, representing Great Britain, United States and Russia, in favour of the adoption of the metric weights and measures in those countries. If this conference be held it will doubtless have important results. Active steps continue to be taken in the United States, and a bill for the introduction of the metric weights and measures in the State Departments is now before congress at Washington, and has been reported on favourably by the committee on coinage, weights and measures. The growth of public opinion in this country in favour of the metric weights and measures has attracted much attention in the United States, and has given an impetus to the movement there. In Canada, the Government are said to be seriously considering the adoption of the metric weights and measures, and several encouraging communications have been received by the Decimal Association from residents in that country. In Russia there is a growing disposition on the part of the Government to adopt the metric system, and there are good grounds for believing that an important step will be taken in

that country shortly. In July last a report was issued by the Foreign Office which contained the replies of Her late Majesty's representatives in Europe to a circular addressed to them by the Marquis of Salisbury, asking for information as to the actual experience of nations which had adopted the metric system. The replies showed that in all cases the change was made without much difficulty, that there had never been any desire to return to the former system in use, and that the adoption of the metric system had assisted in the development of the trade of the countries which had adopted it. The second part of this report has just been published, and bears out these conclusions." (*Nature* for March 14th, 1901, Vol. 63, p. 475).

It is of interest to note, by the points which are brought out from time to time, how the English are thinking in regard to the question of a change, and therefore the following is quoted from the *Pharmaceutical Journal* (Vol. XI, Fourth Series, pages 350 and 351).

"THE METRIC SYSTEM has been adopted with least trouble in countries where it has been adapted to traditional usages, and a correspondent of *Commercial Intelligence* suggests—as was done in the *Pharmaceutical Journal* for May 21, 1898, p. 490, that a similar course should be pursued in the United Kingdom. He points out that in France, where the metric system was invented, the weight most frequently used by the mass of the French people is not the kilogramme, but the *livre*. The French Government, however, has had the intelligence to so alter the old *livre* as to make it exactly one-half of the kilogramme, thus enabling the French people to enjoy without inconvenience the advantages of a traditional and of a scientific system. For smaller purchases the half *livre* (= 250 grammes) and the quarter *livre* (= 125 grammes) are in constant use, the latter being spoken of simply as *un quart*, "a quarter." In like manner, the German *pfund* has been equalised with the half-kilo, and is in constant use in Germany, whilst in Norway not only has the old *pund* been made equal to half a kilo, but the old corn measure has been slightly altered so as to make it exactly equal to a round number of *litres*. It may be taken for granted that the British public will never abandon the use of a weight approximately equal to one pound avoirdupois, because that weight, with its half and its quarter, has by tradition come to be the most convenient denomi-

nator for popular purchases. But, it is urged, there is no reason why we should not introduce a metric pound, which would be only one-tenth heavier than the old pound, and would at once bring English people into touch with the metric system."

"THE METRE itself presents no such difficulty as the kilo, because the British public is already familiar with a measure—the yard—which is approximately the same length as the metre. In measures of surface, however, what may be called the pure metric system is impossible for British usage, as neither the *are* nor the *hectare* corresponds to any land measure that any British surveyor or farmer wants to use. "It so happens, however, that 1,000 square metres are almost exactly equal to a British rood, and the use of this relation would give at once a very convenient table for square measure. It is worth noting also that an English chain is almost exactly 20 metres, and an English furlong 200 metres." Turning to liquid measure, the writer points out that a very convenient relationship is at once suggested by the fact that five litres are very nearly equal to an imperial gallon, so that by establishing a metric gallon exactly equal to five litres, the public would be provided with the means of making a mental bridge between the British and the metric system. The metric ton has already established itself for use in international statistics, and its existence illustrates the object contended for, "which is, in brief, to bridge the gulf between the metric and the British systems by giving legal definition and sanction to the metric pound, the metric ton, the metric gallon, and the metric rood, chain, and acre. At the same time it is essential to get rid of the mass of superfluous names—decagrammes, myriagrammes, etc.—with which the metric system is now encumbered."

In this country rapid strides are being taken. The United States Consul at Amsterdam, Mr. Frank D. Hill addressed a communication to the State Department in October last urging the necessity for the United States manufacturers to adopt the metric system in foreign trade, for in his one limited locality it is becoming daily more imperative. He cites the instance of a firm in Holland receiving that very week a cable offer from New York for 2000 barrels of potatoes. As this was a new business the question at once arose how many pounds were there in a barrel of potatoes—American pounds, too, as the Dutch pound differs from ours. The whole day was lost before the answer could be wired. Had the offer been

made in kilogrammes every business man in "the commercial world from Vladisvostock to Mauritius" would have understood it at once.

Just at the close of the last session of the United States Congress, a bill drawn up by Representative Shafroth of Colorado for the adoption of the metric system by the United States was favorably reported by a unanimous vote of the House Committee on Coinage, Weights and Measures, but did not get through the Senate before the session closed. The bill reads: "On and after January 1st, 1903, all the departments of the Government of the United States in the transaction of all business requiring the use of weight and measurement, except in completing the survey of public lands, shall employ and use only the weights and measures of the metric system, and on and after January 1st, 1903, the weights and measures of the metric system shall be the legal standard weights and measures of and in the United States." The Treasury officers were ready to support the bill and the arguments brought out in its favor included the statement that the United States and Great Britain were the only civilized countries adhering to the old system, as Russia had just a few weeks previously adopted the decimal system. In relation to the adoption by Russia of this system, the information comes to us that the Russian Minister of Finance issued an edict that the metric system should be introduced on January 14th last in St. Petersburg, Moscow and the other large cities. The rest of the country will gradually be brought to use the metric system during the course of the next five years.

Xeroform (Tri-Brom-Phenol Bismuth)—one of the substitutes for Iodoform—has received very little attention during the past year. The most prominent mention which has been made of it occurred in an article on the more recent pharmaceutical preparations and their action in medical practice, by Dr. Alfred Japha of Berlin, Germany and entitled simply "Xeroform." (*Deutsche Aerzte-Zeitung*, Vol. for 1901, p. 10).

Yohimbin (Johimbine)—an alkaloid obtained from the bark of the Cameroon tree (johimbehe) growing in the region of the German colonies in Africa—is a newly-offered aphrodisiac. The hydrochloride is most frequently employed. It has been investigated by several German observers and found of considerable value. It is however very costly and therefore will be slow in being introduced generally.

Dr. E. Mendel of Berlin, Germany is one of the investigators who has reported on this alkaloid. (*Die Therapie der Gegenwart*, Vol. 41, p. 289).

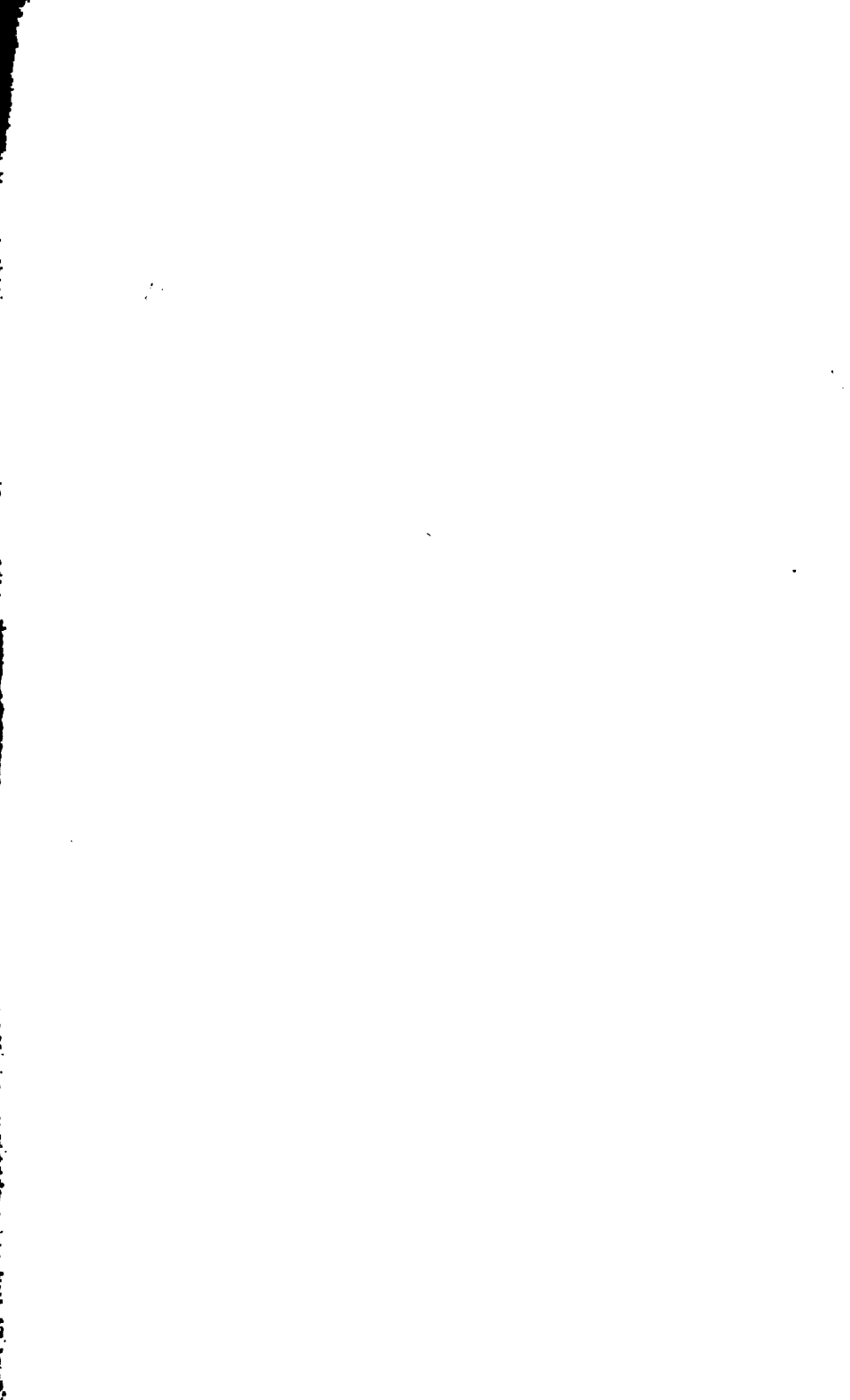
Dr. A. Loewy of Berlin, Germany follows up the above with generally favorable results. (*Die Therapie der Gegenwart*, Vol. 42, p. 297).

Dr. Roberts Bartholow of Philadelphia, Pa. has written on this alkaloid and its salts. (*Med. News*, Vol. LXXVIII, p. 330).

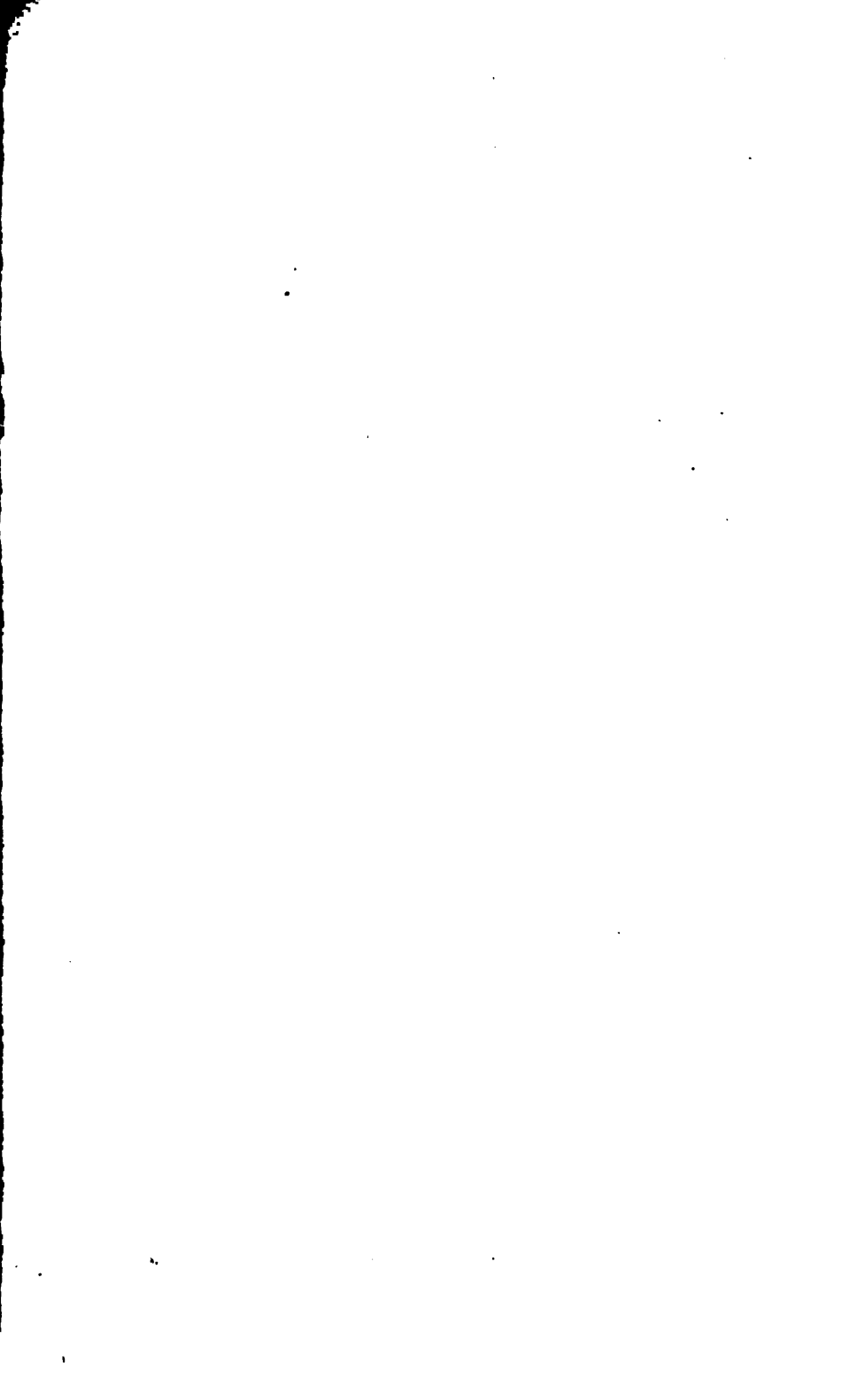
Dr. Berger of Berlin, Germany has carried on a series of experiments with this alkaloid, chiefly on animals. (*Deut. med. Wochens.*, Vol. XXVII, p. 269).

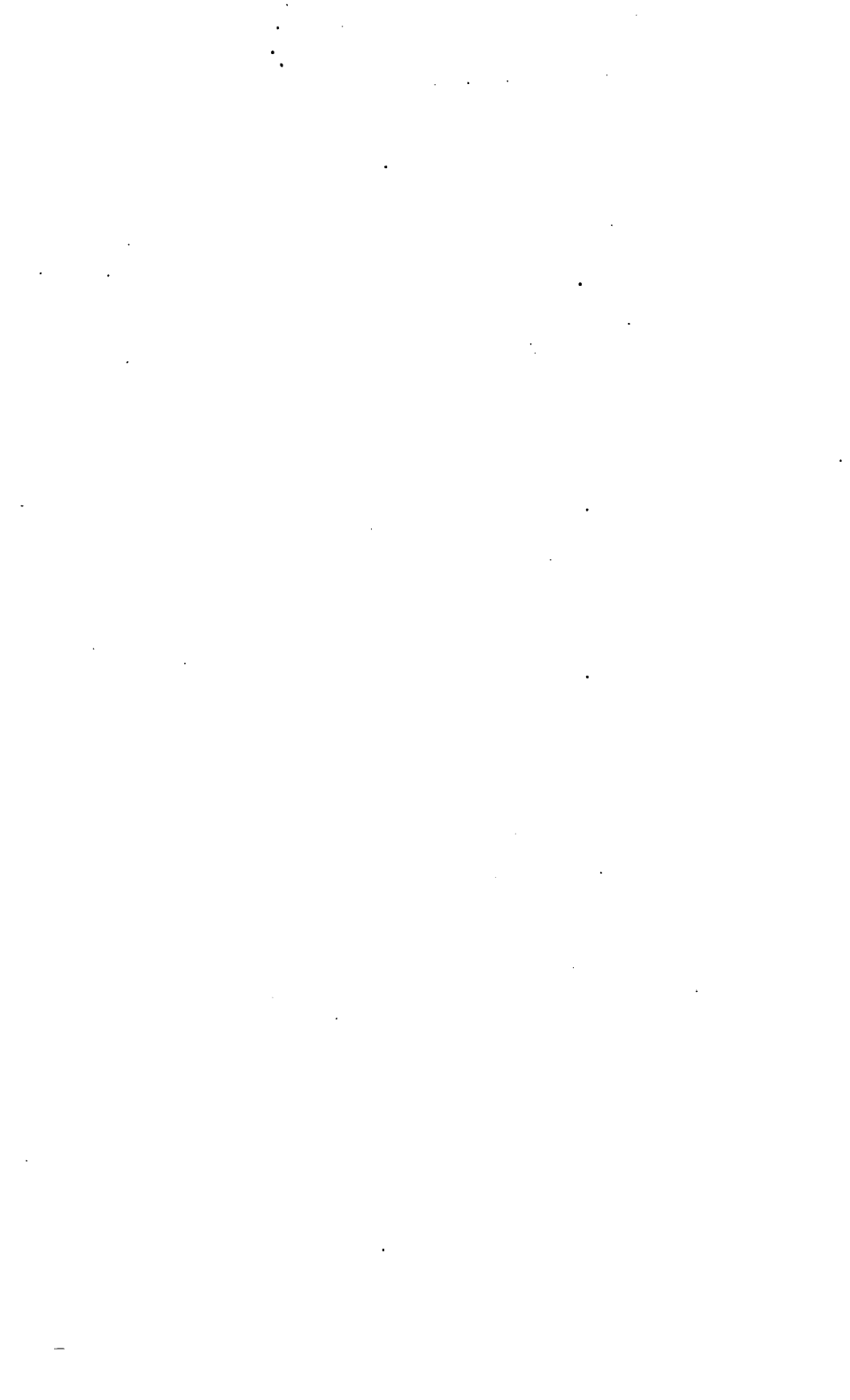
Dr. M. D. Krawkoff is an observer who on the other hand, after experimenting on animals, proceeded to make use of it in six individuals, all physicians, and reports that not one of them showed the expected effect, but each gave evidence of poisoning. He therefore concludes that the favorable results have come rather from suggestion than from the actual use of the alkaloid, and cautions his fellow-practitioners against a possible danger in its use. (*Klinisch-therap. Wochensch.*, Vol. VIII, pages 722, 759, 790, 821 and 822).

Xinol (consisting of 1 part Zinc Acetate and 4 parts of Albumin Naphtho-Sulphonate) was alluded to here last year under the head of Xinol, which was an error in the type. It has been practically unheard of in the medical literature of the past year.













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